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MESOPOTAMIA AND PERSIA—AND ENGLAND*

ROLAND S. VAILE

A true statement of the present political conditions in Mesopotamia and Persia is impossible from this distance. England seems to dominate the situation for the moment, but conditions are apt to change with the same kaleidoscopic rapidity that has characterized recent events in Poland and in Russia. He is a bold prophet, indeed, who attempts to outline the developments and affiliations which the next few years may see consummated.

The present physical condition of these countries—industrial and agricultural—may be much more accurately stated. Where transportation depends in large measure upon camel caravans and where current history is more often learned from the spoken than the written word, fundamental or even significant economic changes come slowly. A prophecy of the future of industry and agriculture is a somewhat possible thing; for while the political groupings and the quality of international sympathy will in large measure determine the rate and order of developments, yet no political intrigue can be imagined that will permanently distort the heritage of an agricultural environment and a deposit of oils and minerals. The surge and press of world population will some day demand full development of all resources, no matter

* This article was submitted October 1, 1920.

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what the political power at the moment, for mass economics is stronger than written government. Thus there is much that may be pictured for these countries without going beyond the suggestion of present experiences.

Mesopotamia is destined to become a great factor in world production of food and clothing. The country may be likened to an enormous "Imperial Valley,"[1] watered by two rivers instead of one (and the Tigris River in the fall of 1918 was carrying a greater tonnage of freight than any other river in the world); with no less than five million acres of irrigable land, and water for it; with a climate that grows crops twelve months in the year; and with potential water and rail transportation to any market in the world. The rich silt of the valley floor may well become the world's greatest cotton field, while the fertile foothills of the Pusht-i-Kuh Mountains that separate Mesopotamia from Persia are by nature intended for the support of sheep.

Cotton and wool have long been powers in a competitive world. At the present moment the two island empires, England and Japan, are moving to insure their future supplies of raw materials. Japan proposes to stock Siberia, as well as her own hills, with wool bearing sheep; Japan proposes to encourage cotton production in China; both of these to the end that she may become

[1] A further word of description should be added for those unfortunates who are not familiar with California geography. The Mesopotamian valley is an extremely fertile, alluvial-silt plain, extending for about 1000 miles northward from the head of the Gulf of Persia. The Tigris and Euphrates rivers, which join a few miles before reaching the Gulf, traverse the entire length of the valley to their sources close together in the Kurdish Mountains. The distance between the two rivers varies greatly, being less than thirty miles in the vicinity of Bagdad and old Babylon, while it is nearly one hundred miles at Amara, halfway between Bagdad and the Gulf, and two hundred miles at Mosul, farther north. The valley is flanked on the east by the Pusht-i-Kuh Mountains, from which many tributaries flow into the Tigris, while to the west it merges gradually into the Arabian desert. The climate away from the Gulf is very dry and extremely hot. Native vegetation is sparse, and often wholly lacking except for a short period in the spring. In all of its physical aspects, Mesopotamia is strikingly similar to the territory lying north from the Gulf of California and traversed by the Colorado River.

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the greatest textile power in the world. A member of the Imperial Department of Agriculture of Japan told the writer that he confidently looked forward to the time when one third of the world's wool supply would be produced at the door of Japan, and that Japan would then be the greatest textile manufacturing nation in the world.

Against these dreams of Japan the spindles and looms of England are set in competition, for the employment and comfort of her people are in considerable part dependent upon her mills. As fast as the world's ability to purchase is increased, England will increase her output. As with Japan, most of her raw material comes from abroad. But the large shipments from India are being rapidly reduced, for the mills of Bombay and Calcutta and Madras are becoming strong forces in the production of finished goods of all sorts; indeed, during the war the large stocks of textiles of every kind that were available at the Bombay mills were suggestively interesting.

The stage is thus set for the English "exploitation" of Mesopotamia to the extent of purchasing all the raw wool and cotton that the two and one-half million inhabitants can be persuaded to produce.

As an essential part of this "exploitation" the British have opened civil hospitals that are a credit to any country; far surpassing any operated under Turkish régime. The names of such men as Dr. Galt, at Kut-al-Amarah, and Dr. Evans, at Bagdad, should be recorded with those of the strongest medical missionaries. Treatment of individual ailments has been a large part of their work, but it has by no means prevented forward steps in general sanitation among the native inhabitants. One has but to walk through a village with his nose open to sense the change which these men have wrought.

Along with the hospitals have come schools, the best the country has ever known. Under the Turks the

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meager instruction was given in the Turkish language, and in consequence comparatively few of the Arabs took advantage of it. As early as 1918, just following British occupation, Arabic was substituted as the tongue to be used in the schools. This in itself will doubtless have a tendency to nationalize the Arab and give him a self-respect and a self-reliance heretofore undeveloped.

Then, too, land courts were found essential to determine with some little measure of fairness the real ownership of land, in order that it might be farmed. The British and the Arab jurists worked side by side with a patience that seemed typical of the country where once Job dwelt. In all cases previous rights and customs have been recognized whenever they could be ascertained.

As a further step, every effort has been made to take advantage of local production. For instance, raw wool could not well be exported during the war, but large quantities of it were purchased, spun, and woven into blankets which the British army not only bought but used. As another illustration, there are over 10,000 acres of date gardens in the Bagdad villayet and an even greater acreage in Basra. The housewives of America perhaps have realized that, for the first two years of the war, exports of these dates were greatly curtailed, but in the fall of 1918, shortly after British occupation, sufficient transport was released from urgent war duty to move the entire crop.

All these things have been spoken of as British propaganda; certainly they are designed to win the good will and confidence of the native population, and likely they will serve as a foundation for English trade in wool and cotton. The English labor leaders have urged that the government abandon Mesopotamia, and use the several million pounds now being spent there annually to pay better wages to coal miners, but the government prefers to continue the constructive propaganda in order that English mills may run in years to come.

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Not all of the five million acres of irrigable land is now irrigated nor has it been in recent times. Only a fringe along the rivers is watered by occasional small canals extending out like fingers into the desert. The diversion dams and intakes are mainly small and non-permanent, while much of the water taken from the rivers is raised by bullock-power lifts. As the Turks withdrew from Mesopotamia, they destroyed as many of the pumps and lifts as possible, thus greatly handicapping the few thousand acres then being tilled. I spent some hours during September, 1918, with a British officer in charge of pumps on the Tigris River. Such a collection of discarded and reincarnated apparatus as the British had hastily installed is beyond description. Standardization had been an impossible ideal. Anything that had been worn out, or had been a failure in India, was sent to Mesopotamia. "Home-made" spares were the only possibility. The men who wrestled with that machinery through the summer heat where 110° maximum was cool, suffered as true pioneers. But vegetables must be grown to prevent scurvy in the army, dairy cows must be fed green grass, and first and foremost the native must be encouraged by example and precept to make his land produce.

The irrigation plans mapped out some years ago by Sir William Willcocks are very extensive, embracing practically the entire five million acres. The completion of the splendid concrete dam and intake at Hillah, by means of which some twenty-five thousand acres may be irrigated, marks one of the first steps toward the realization of a magnificent dream. While this is the largest single unit of the work so far undertaken, yet there has been a substantial improvement in the canal system near Amarah and also an enlargement of the Beled-ruz canal, which takes water from the Diyala River to the broad plains west and slightly north of Bagdad. It has been said that the irrigation schemes of Sir

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William are to revive some day the old canal system that so extensively watered Mesopotamia; they do better than that, for they provide in numerous instances a more economical distribution of water and tend to guard more securely against the dangers resulting from excess seepage or poor drainage.

The completion of these plans calls for the expenditure of large sums of money. Mesopotamia, of herself, can neither engineer nor finance such undertakings. So soon as the world expresses the need for the textiles which Mesopotamian cotton will make, Britain will complete what she has begun. In the meantime she must train the people to make use of facilities later to be developed. The use that is now being made of the present developments bespeaks the British success in creating confidence among the population. Likely the development will be slow, for there is neither the demand nor the working force to justify haste.

The oil of Mesopotamia will play a large part in her future. That there is oil in Mesopotamia no one questions. How extensive the deposits are, no one knows. A little of it was used during the war, but essentially the fields are untouched, and to a large degree even unprospected. England and the world at large have always depended upon the United States for oil supply. Private capital of the United States now controls some 80 per cent of world production while Britain, including her Persian operations, produces less than 5 per cent. If Britain is left alone she may not develop the oil fields of the Pusht-i-Kuh Range until she needs the oil for her merchant marine, which is largely equivalent to saying, until the United States no longer cares to meet the demand. With the Doheny interests doubling their interests in Mexico,[2] and with the marked activities of the

[2] Shortly after General Obregon became President of Mexico announcement was made of new leases to the Mexican Petroleum Company covering tracts of land said to be very rich in oil prospects and greater in extent than the total previous holdings of this company.

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United States in South America, Britain may feel justified in holding these fields in reserve for some time to come. But the Arab, once relieved of the Turkish yoke, may surprise the world—or if not the Arab, possibly the Bagdad Jew. It is entirely conceivable that they will launch into industry as have the Parsees in Bombay or the Japanese in Osaka, in which case much of the oil will be consumed at home and sooner than is now anticipated. The only sure thing is that the oil will be developed; with human nature what it is, one may not say by whom or for what purpose.[3]

Persia presents many of the same possibilities and problems as Mesopotamia. At present there are less efficient modes of transportation, and the distance to markets will always be greater. Today Persia is essentially an agricultural country. It produces some of the finest fruits and vines and melons of the world. Cotton, wheat, and raisins can be increased in production almost *ad libitum* by the development of water supplies. Such projects as the bringing of the Lahr River into the Teheran Valley are entirely possible and may be compared to the turning of the Colorado River into the Imperial Valley, or better yet, to the tunnel through the Western Ghats in South India. There are opportunities for enough water storage and development practically to insure the country against famines. When one pictures a territory closely similar in extent, topography, latitude, climate, water supply, and range of mineral and agricultural possibilities, to our states of Colorado, Utah, New Mexico, and Arizona, together with the Mexican states of Sonora and Chihuahua, and practically untouched so

[3] The San Remo agreement provides that 25 per cent of all oil developed in Mesopotamia by British companies may be sold to France. Sir John Cadman, head of the Oil Resources Board of England, pointed out in a recent address before the Royal Society of Arts that there is nothing in this agreement or in any other order of the British Government to prevent long the development of oil in Mesopotamia by other than British companies. There is an order prohibiting oil development by British or other companies pending the determination of the exact status of the government, and there is an act of Parliament which prohibits foreign oil companies from operating within the British Empire.

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far as engineering projects are concerned, imagination knows no bounds.

However, there are limits to the rate of profitable development of agriculture in Persia. It is a country surrounded by agricultural countries. The question of export markets is a serious one, at least until means of transportation are greatly improved. With the exception of dried fruits, there are practically no facilities for turning bulky raw products into the more easily transported manufactured articles. Only one who has been there can in this day imagine a country without modern modes of transportation—where the petrol to run the motor convoys is brought in by donkey caravan, and where at times the roads so nearly reach a vanishing point that Packard lorries are taken to pieces and returned to the starting point on camels. The shortage of established industries means, among other things, a lack of industrial families to consume the product of an increasing agriculture. A carefully planned policy to correlate the development of industry, transportation, and production is essential in such a country.

The British are in Persia, as well as in Mesopotamia, politically, but in a different capacity, as well as with a very different spirit. They have never officially "occupied" the country nor have they attempted to make the same progress with hospitals and schools and fair taxes and irrigation projects. They have treated the people fairly, but they have avoided unnecessary initiative because they have greatly hesitated to accept responsibility for Persia. This aversion has doubtless been mutual, which fact has only tended to increase the Briton's natural reticence. But conditions sometimes become intolerable. Persia, like Mesopotamia, had lost all hope of unaided self-government. The reasons are past history and need not be discussed. It is doubtful if anyone at this time can give proper valuation to the many conflicting causes. However that may be, all

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agreed that Persia needed outside assistance. Part of Persia desired American aid, but it was not forthcoming. Part of Persia desired to pick their advisors from several nations, but could come to no agreement. Persia had to have money and advice, and part of Persia was very glad to accept both from the British. Likely it would have been better for Persia's self-respect if all her advisors could have been her own paid servants instead of receiving any aid directly from the British ministry. But Sir Percy Cox, now virtually elected as civil ruler in Mesopotamia, formed many staunch friends for England while acting minister to Persia during 1918 and 1919, and General Dickson, whom the writer knew as officer in charge of Local Resources in Bagdad, is now making a name for himself in Persia that will long be revered and loved.

All is not love, however. The northwestern province of Persia has seceded and has taken a name meaning "Free-Land." This is called by some a Bolshevist movement, but it must not be confused with Russian Soviet government. While there is similarity in method, there is apparently no affiliation between the two. The leader of northwestern Persia, whose name means "Little man," comes from the jungles surrounding the Persian shores of the Caspian Sea. He is of fiery disposition and a strong personal leader. He is about equally anti-Shah, anti-British, and anti-Russian.

Viewed from a distance, there are marvelous opportunities for engineering and agricultural development throughout Mesopotamia and Persia. One might write a book on the hydro-electric possibilities alone.

As regards oil, or hydro-electricity, or potential wool and cotton, or any of these material things in Mesopotamia and Persia, they are not new. Germany prospected for oil all through those territories just prior to 1914. Anyone was privileged to do so. But with the governments of the past, which might and did cancel

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concessions just as the expensive pioneering was completed, development was not forthcoming. It is only since British occupation has suggested the guaranty of stability that serious attention has been attracted; in itself a flattering indication of the high regard paid by the world to British fairness in political control. There is a definition of civilization which submits that the degree of civilization in any community is in direct ratio to the opportunity for its population to find remunerative employment both physical and mental. Civilization will increase under that definition in the countries mentioned when the type of political justice which Britain stands for becomes the habit of the land; and only then. Viewed from a distance the Briton may seem a pretty shrewd propagandist and a vile exploiter, but when one thinks of the awful dust, the heat stroke, the sand flies, the mud roofs that leak, the streets too narrow for even a Ford, the camels that bite, the donkeys that balk, the cholera, and general filth, one wonders just a little where the Englishman gets his grit. The amount of headache he goes through is staggering. And when one remembers that the Mohammedan, deprived by his religion of art in many forms, is apt to give vent to his temperament through the most artistic lying, official as well as unofficial, one has nothing left but wonder and praise for the man who pioneers in the western development of an eastern country. And when one thinks of the schools and hospitals, of the irrigation and the near roads, of the justice and patience, one is convinced that the interests of the country are in good hands.

If Persia and Mesopotamia are wise, they will learn the lessons of just government and honest industry from the British. When they have learned, there will still be ample opportunity for them to "exploit" their own country in the same manner, for the British have never yet left a country poorer than they found it.

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AN APOLOGY FOR ETHICS*

GEORGE P. ADAMS

There is no single field of study dealing with human life and society which is not at the present time beset with doubt and perplexity concerning its fundamental aims, its method, and its relation to the entire field of humanistic studies. This is true of psychology, economics, history, sociology, and also ethics. And I suspect that this is more true of ethics than of these other studies, for reasons which may best be made evident if I enumerate certain outstanding characteristics of the traditional handling of the method and subject matter of ethics. We shall then be in a position to raise the question as to the competency of such a study to deal with the major ethical problems of society at the present time.

There exists a wide uniformity in the way in which the subject matter of ethics is viewed, and the manner in which that subject matter is taught, in college and university courses in ethics. The procedure is commonly as follows: It is first made clear to the student that ethics belongs to a group of sciences, sharply marked off from the sciences comprising a different group. Ethics, it is urged, is a normative science, to which group also belong logic and aesthetics. These normative sciences are supposed to be concerned with a wholly different kind of problem and subject matter

* A paper read before the Kosmos Club, October 4, 1920.

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from that with which the descriptive sciences deal. The descriptive sciences aim at an orderly description of such existing facts, relations, and processes as fall within their respective fields of observation. They deal with what, as a matter of fact, does exist or has existed. The normative sciences, on the other hand, concern themselves exclusively with what ought to exist, with standards and values, ideals and goals.

With this as a basis, then, one proceeds to formulate the central problem of ethics thus: How shall one define the most comprehensive and the highest good, the thing which, above all else, ought to exist, the final and inclusive goal of human life? And then, with this as the problem, it appears that during twenty-five hundred years of European ethics but two fundamental types of answer to this question have emerged, and have constituted the arena of ethical debate and controversy. The traditional course in ethics consists in giving an historical survey of these two rival ethical systems together with a restatement of the argument and dialectic which may be thought to verify one system and refute the other. On the one hand, there have been those who have answered this question of the highest good in terms of human perfection, the perfecting of human nature, and there have been those who have answered it in terms of human happiness. Of course, there have been countless compromises and syntheses, variations of all kinds and degrees. Nevertheless, the course in ethics normally revolves around the perennial debate between Stoic and Epicurean, Kantian and Utilitarian, Perfectionist and Hedonist. And, it may be said, the chances are that the official teachers of ethics weigh all the arguments, all the dialectic against Hedonism and in favor of some variety of Perfectionism. Of course there is abundant opportunity in such a program for wide excursions into interesting and bewildering fields. One dips into psychology, into the analysis of impulses, desires, and

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volitions; one surveys the conflicts between egoism and altruism, one discourses concerning the mysteries of conscience and the sense of duty, and one constructs a system and doctrine of the virtues. But so far as theoretical ethics is concerned, the facts are as I have stated them. Ethics has been, and still is, for the most part, a reflective consideration of the relative claims of perfection and happiness as candidates for the office of the highest good. This is the traditional mould in which ethics has been cast. I should not wish to imply that fresh departures have not from time to time been made. Especially in modern ethics have reform movements of great interest and importance arisen. But these departures have been, until quite recently, more of the nature of eddies within the main stream of traditional ethical reflection than sustained attempts to review the entire body of assumptions and premises upon which ethics has hitherto rested.

For, ethical systems and moral ideals *have* presuppositions and premises. They are not suspended in a vacuum; they are embedded within the social forces and institutions, habits of thought and ideas, which comprise the stuff of history and of civilization. The very form in which the problem of ethics is stated has its roots, not solely in the current problems of morality, but in the outlying and all but unconscious intellectual habits which are the reflection, within men's minds, of the prevailing social order. Take the central question of traditional ethics, what is the highest good? Philosophers and moralists have commonly started in to attempt an answer to this question without first asking what it may mean to assume that there does exist one single, highest good. The question as to what the highest good is naturally and inevitably arises in a world where both the social order and men's habits of thought derive their validity from some highest, centralized authority, divine, monarchical, rational, feudal or some other. Perhaps

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there is no single and inclusive highest good; perhaps the goods of life are diverse and many, comprising a federal and pluralistic scheme rather than a single, pyramidal system. The point is that the question, what is *the* highest good, presupposes that there is a single, authoritative good, and that this assumption reflects a social and intellectual system in which anything different would be unthinkable. Hence, it is of great importance to lay bare and to analyze the tacit assumptions and premises of the traditional approach to ethics. When these underlying premises are made explicit, they are seen to conform to and agree with certain of the assumptions and organizing principles upon which European society and civilization have hitherto been based. The present theoretical confusion, whose existence and importance no one may question, as to the scope and method of ethics is but a reflection and echo of the practical confusion which characterizes society at the present time. I turn then to an examination of certain initial assumptions underlying the structure and procedure of traditional ethics.

The first and determining presupposition grows out of the distinction already referred to, that, namely, between descriptive and normative sciences. There is, of course, a distinction between the way in which men have acted and do act, and the way in which men ought to act. There is obviously a similar distinction between the way in which men do, as a fact, happen to think and reason, and the way in which they ought to think. It appears that if you set about merely to describe actual and existing processes of life, conduct, and thought, you will, say, make no distinction between the vagaries of a lunatic's thinking and the carefully controlled and reasoned thought processes of a trained mathematician. The world of describable and existing processes holds them both. Likewise, the world of history and of human deeds, the policies and careers of groups and of nations,

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contain a paralyzing medley of heroism and cowardice, reasoned insight and stupidity, sustained devotion to duty and blind pursuit of what is mean and ignoble. How can one possibly discriminate between the good and the bad if he merely describes things as they are? Such discrimination, all standards and ideals which may enlighten and guide human practice, it has seemed, must be derived not from any describable facts as such but from elsewhere. But now observe the implication for conduct and for social practice of just this apparently necessary and innocent distinction. The result is that no objective situation whatever which may be described and known, and consequently no knowledge whatsoever, can be of any use to men in determining their conduct, in resolving their conflicts, in controlling the texture of society and of civilization. Let me state this as forcibly as I may. It can scarcely be overstated. Wherever any question arises as to what men ought now to do, in all matters touching human relationships and the life of society, all science, i.e., knowledge of existing facts and processes, is by implication ruled out if ethics is removed from the family of the descriptive sciences, those sciences which have for their aim an orderly knowledge of man and of the world in which he finds himself. Let one pick up at random almost any exposition of what ethics is all about and he will find some such statement as this: "Now the distinctive character of ethics is that it is concerned with the question of *ought,* the question of right and wrong, good and bad. It is concerned, that is, with a question lying beyond the bounds of scientific procedure, beyond verification, beyond induction, beyond actuality. Therefore we can have a history of ethics but no science of it."[1] Now it is as clear as daylight that if science, knowledge of existing facts and processes, is to be ruled out when it comes to problems of conduct and of social policies, there is in the large only one alternative, some form of an appeal to authority.

[1] Maciver, Community, p. 53.

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Authority has, in the past, assumed more than one form. There is religious authority, the declared and revealed will of God, as set forth in a book or a church. There is social authority, the sheer pressure of the group, of public opinion and of custom. And lastly, there is that puzzling and bewildering thing which men have called human reason, and it is to the authority of reason that much philosophical ethics has made its appeal. Now I am ready to plead guilty to the charge of over-simplification, of glossing over important distinctions, and of subjecting the rich tradition of philosophical ethics to the Procrustean bed of brief and schematic assertions. Nevertheless, I am prepared to say that what philosophical ethics has commonly included within the concept of reason has been a hybrid. "Reason" has been and is an adumbration of a supposed divine and transcendental faculty of man, distinct from every natural, i.e., biological and social, aspect of human nature. To appeal to the guidance of reason, in this aspect of the matter, is precisely to appeal to nothing factual, empirical, and descriptive, but to a sublimation of divine authority. But reason has been and still is a name for a confused variety of existing human interests and values which are just as much a part of the world of existing facts and structures as are men's livers and brains. Moralists and philosophers have time and again thought that they were founding morality and society, law, obligation, and authority, upon some inherently authoritative norm, divine or rational, when in reality they have been simply noting the presence, within their world, of certain actual facts and processes. They have thought their procedure to be normative, whereas it was really, though often in an obscure way, descriptive. Something similar has, I suspect, occurred in the history of mathematics. Men have, until quite recently, supposed that the process of thinking was something radically different from the process of observing data;

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mathematics has frequently been classified as a deductive science. If I am not mistaken, it is no longer so classified by sound thinkers. Mathematics is as inductive as meteorology or geology. At least, after you have got your initial postulates and definitions, all that you do is to watch the manner in which they lead on and develop into other ideas and propositions. The procedure is not essentially different from that of watching a chemical reaction, a political revolution, or any process whatsoever. There is little doubt that the entire group of conventional distinctions which have hitherto served to erect barriers between kindred intellectual pursuits, and to blind men's eyes to the common task and method of intelligence everywhere, has been little short of disastrous. Such are the contrasts between deductive and inductive, reasoning and observation, a priori and empirical, normative and descriptive, philosophy and science.

The point is that, so far as the problems of ethics are concerned, the traditional distinction between descriptive and normative sciences has afforded a sanction for the belief that, when it comes to the question as to how men should order their lives and their institutions, something other than knowledge should furnish guidance. And all the while that this point of view has been fastening itself upon ethics, the modern world has increasingly become habituated to the use of intelligence —science and knowledge—in all those regions of our life in which we deal with physical nature. If it is a question as to how a city ought most economically and efficiently to provide an adequate water supply, we recognize that there is no guidance except in science, knowledge based upon describable facts. These objective data, mastered by intelligence, yield norms. In engineering practice, in medicine, and in certain restricted regions of social practice such as industrial management and the arts of advertising, any such

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distinction as that between normative and descriptive science is meaningless. The only distinction is that of theory and practice, and men agree that the only intelligent practice is that which is based upon precise knowledge. In so far as ethics has built its structure upon this radical cleavage between descriptive and normative method, ethics has cut itself off from any possibility of applying to the problems of life and of society the intellectual tools which we apply to problems elsewhere.

But this present situation has other roots than the distinction between two types of science. For two thousand years and more morality, and consequently ethics, has been fundamentally individualistic. What is meant by this statement is simply this. Let us start by saying that a moral problem exists only within an area over which an individual may exercise some control, and within which the individual may be held responsible for whatever happens. So much is taken for granted by everyone. Whatever falls outside the boundaries of such an area of control and responsibility falls outside the scope of moral judgments. Ever since the break-up of the ancient world, ever since Plato and Aristotle, this area within which moral problems arise has, in the main, been confined to the area of individual conduct. And, more often than not, it has been still further restricted, to the region namely, of motives and intentions, the good will, the inner life and character of the individual, divorced from all concrete content and consequences. Ethics has, in substance, said just this. Let the individual organize and discipline his own individual conduct and character, his motives and his inner life. All else falls outside the moral area. In the entire stretch of time from later Greek ethics down to the present, this limitation of the moral area to the domain of the individual has assumed two different forms. Down until the opening of the modern era it was stated in religious terms and was justified in the light of religious and

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theological beliefs and motives. In modern civilization this same restriction of the moral area to the individual has been stated and justified in economic and social terms. It is scarcely necessary to elaborate the first statement at any length. It is sufficient to recall the attitude of Stoic, Epicurean, and Christian to the entire fabric of social structures surrounding the individual, and in the midst of which he was to live his life. The individual was taught to regard his concrete social environment as something which was indifferent to the achievement of his own highest good. The proud and heroic wise man of the Stoic ethics, the disillusioned Epicurean, content with the near and simple pleasures of a detached community of friends, or the Christian who owed allegiance to a supernatural order remote from the historical life of society—all these exhibit fundamentally the same attitude. The moral area was restricted to the inner life of individuals. The processes of history and of society had no more to do with morality than did the weather. The individual could control the one as little as he could the other. He was responsible for his social environment as little as he was for storms and earthquakes, drought and pestilence. He accepts these as given, either by nature or God; they may be borne with fortitude and resignation, and they may even offer occasion for moral discipline. But it is not the task of the individual to master these forces and fashion them for the betterment of the human lot.

It seems a far cry from this habit of mind and of attitude to the modern world. Yet, in one vitally important aspect, our modern social order has inherited the essence of this older individualism. What I mean is something perfectly definite and familiar. I refer to our ingrained and established conviction that if each individual will organize and control his own individual life and interests society will take care of itself. And I mean something more characteristic and profound than

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the preachment that if individuals would only cultivate kindly and benevolent sentiments, all social problems would forthwith right themselves. This complacent belief is but an offshoot and echo of a more fundamental assumption, which finds its classical expression in the often quoted words of Adam Smith, which I shall take the liberty of quoting once more. "As every individual, therefore, endeavours as much as he can both to employ his capital in the support of domestic industry, and so to direct that industry that its produce may be of the greatest value; every individual necessarily labours to render the annual revenue of the society as great as he can. He generally, indeed, neither intends to promote the public interest, nor knows how much he is promoting it. . . . He intends his own gain, and he is in this, as in many other cases, led by an invisible hand to promote an end which was no part of his intention. Nor is it always the worse for the society that it was no part of it. By pursuing his own interest he frequently promotes that of the society more effectually than when he really intends to promote it." Why—this is the upshot of the matter—why bother about anything which falls outside of the individual's own clearly defined interests, why concern ourselves over much with the objective ordering of social institutions when nature or the "invisible hand" will take care of society if only individuals take care of themselves? Let each individual pursue his own economic interest, organize and exploit whatever may chance to fall to his hands. Let him apply his science and his intelligence to this restricted, individual region, and then leave the working out of the results to the invisible hand of nature or of God. There is no need, on the basis of such premises, for any scientific knowledge of historical processes and of the objective institutions of society because these fall outside of the area which the individual is to organize and to master. Here is to be found the key to the fundamental

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assumptions of our modern social order as it took shape after the decay of the feudal régime. Here is the root of the system of natural liberty, of *laissez faire,* the belief in the harmony of interests, the distrust of social science, and of any science of man and of history. This is the modern equivalent of the ethics of Stoicism and of Christianity. Indeed, it is possible now to lay bare the historical channels through which the older religious individualism became transmuted into modern economic individualism. Protestantism and, especially in England, Puritanism paved the way for this apotheosis of individual men, and this disbelief in the reality of society, of institutions, and of impersonal processes of history as legitimate objects of descriptive knowledge and intelligent control.

There exists an analogy, an exemplification in miniature of precisely this situation which I have depicted, in the development of those institutions which go by the name of universities, which I may be permitted in this place to point out. Most universities have grown up on the principle of individualism and the belief in the invisible hand. Each unit of the university, each department, has, for the most part, gone its own way, pushed out and pushed forward primarily with reference to the supposed needs and interests of the unit considered by itself. Let each department organize itself, expand and exploit in its own way, the university as a whole, led by an invisible hand, will take care of itself. It is only secondarily and reluctantly that it has begun to dawn upon our minds that it might be well to think about the organization as a whole, to exercise some control over the activities and careers of the various units, to look to the building up of a university or college mind which would check and prune here, incite and stimulate there, institute, in short, a common and unified control over the system as a whole. But to do this runs counter to the ingrained habits of individuals and departments. It

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would violate natural rights and vested interests. It would subvert the freedom of instructors to do as they please; it would throw open the privacy of lecture room and blue-books to the scrutiny of deans and committees. But some such thing as this, unthinkable and intolerable as it is, appears to be the only alternative to the still worse evil of educational individualism. For, the system of natural liberty, the reliance upon the invisible hand rather than upon intelligent control, whether within the small world of the university or the larger world of modern society has broken down. It has resulted in chaos. It is in constant danger of providing us with unrelated, useless, and even harmful forms of activity, whether business enterprises or courses of instruction, which have come to exist either because somebody finds them useful means of exploiting his world for his own advantage, or, at best, because of historical accidents which have taken root and determined the future without any reference to the growing needs of the total system viewed in its entirety.

I may appear to have strayed far from my subject and to be perilously near dangerous themes. I have wished thus far to say two things. First, traditional ethics, through its emphasis on the distinction between a descriptive and normative science, has deliberately renounced the hope of exercising an intelligent control over social processes similar to that which applied science has made it possible to achieve in man's control over his physical environment. Second, this renunciation has fitted in with, and has played into the hands of, the individualism which allows an individual to organize his private interests, but forbids the formation of any social purpose for the control of men's social environment.

The resulting situation is an impossible one, and for many reasons, some of which I may briefly touch upon. It leaves us with a radical split between two areas of

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human experience, the region in which we recognize that no practical endeavor can succeed unless it be based upon scientific knowledge, and another province which we have set aside as one admitting of no such intelligent control, based upon organized knowledge. It is psychologically impossible that such a cleavage should always persist. The total structure of modern civilization cannot remain a house divided against itself.

There is a process which has been going on at an accelerating velocity in modern life and which makes it more and more perilous to leave the structure of social institutions to the free play of individual interests and to rely upon the invisible hand. This process is that of the division of labor, of specialization. In proportion as this increases, the individual ceases, in fact, to be the determining unit. What he does increasingly obtains its value and its meaning in the light of the whole complex structure. His own activity becomes a specialized function. The entire structure comes to be a delicate mechanism, requiring the mutual adjustment of all the parts. The more complex the mechanism is, the greater becomes the need for the conscious guidance of its processes, based upon a knowledge of needs to be met, and the available resources for meeting these needs. Our world is no longer a primitive and pioneer world where an individual can stake out a claim, and then proceed to exploit it in more or less independence of everyone else. This holds good for the world of intellectual achievement, the world of scholars and scientists, no less than for the physical and the social world. As the necessity for intellectual specialization increases, the necessity for coördination and coöperation likewise increases. The difficult task must be essayed of so ordering the scientific and philosophical labor of mankind that the specialized work of any one individual shall perform a useful function, relevant to the advance of knowledge as a whole. Wherever there is division of labor and, in

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consequence, the actual existence of a complex mechanism with many parts and many functions, there must be a corresponding social purpose which organizes and controls the various functions in the light of the total requirements and resources. Otherwise it is inevitable that the invisible hand of a beneficent providence shall turn out to be the all too visible hand of those who can best scheme and exploit for their own selfish ends.

It is this present situation in which civilization finds itself which sets the task for ethics, an ethics for which I should care to offer an apology. No such ethics exists, or ever will exist, as a finished and completed system. But there is at hand a body of knowledge, as yet but imperfectly organized, and there are hypotheses which may be put to the test of facts and of experience, which make a beginning of such a science of ethics. Ethics would become the focussing point for our knowledge of human needs, and for our human, social resources which are at hand to supply those needs. It would still remain, what in part it has always been, a survey and an estimate of human values, of what men want, of what human nature demands. I see no theoretically insuperable difficulty in reaching a scientific knowledge of what the needs of human nature really are. In this part of its enquiry ethics would be comparable, say, to dietetics, which aims to discover the amount and kinds of food that the body requires under varying circumstances. Dietetics, indeed, as a science, pays little enough attention to what individuals happen to like and dislike, to the vagaries and idiosyncrasies of taste. It offers a descriptive survey of objective structures and functions. Ethics has, in large measure, been content to take into its reckoning only subjective ideals and aspirations, divorced from any objective knowledge of needs and of functions. Traditional ethics may be compared with a pre-scientific dietetics which should consult the purely subjective tastes, gastronomic norms and ideals of individuals,

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without knowing anything about the physiological processes which supply the objective basis for food values. Now, the processes of history, the efforts of men to build up social institutions, the groping of men toward justice, truth, and human companionship, these recognized wants and ideals, are related to ascertainable needs and functions of human nature just as food values are related to the scientifically knowable structures and functions of the human body. There is no appeal here save to the facts.

But this is only half the task. We need an objective basis not merely for our knowledge as to the needs and functions of human nature; we need also to enquire into the way in which, at any given time and place, these needs are being supplied. At the present time, certainly, if not throughout man's history, the resources available for the satisfaction of human wants exist in the form of, or are bound up with, the organized life of society. They are, in the broadest sense of the term, social institutions. Once more to revert to our analogy, social institutions are related to those human necessities and requirements which it comes within the scope of ethics to ascertain, just as food resources are related to the physiological requirements of the body. The consequence is that ethics becomes an inquiry into the adequacy of existing social institutions to satisfy the requirements of human nature as they may be known to exist at any given time. Ethics thus becomes the focussing point not only for the psychological sciences, but for the historical and social sciences as well. Obviously, one cannot plunge at once into the social resources of civilization, the existing social capital, without a preliminary knowledge of the way in which this capital, these ideas and institutions, have come to be what they are.

There are one or two possible misunderstandings of the implications of such a conception of ethics as I have

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tried to set forth. Ethics is an inquiry into the nature of human needs and values, and also into the adequacy with which the available social resources, i.e., social institutions, are meeting these needs. The desirability of pursuing such an inquiry arises from the necessity of securing an intelligent control over the future development of civilization. This means a deliberate renunciation of *laissez faire* and of optimistic confidence in the invisible hand. It implies an increasing social control, based upon knowledge, of the various ways in which human wants are supplied. That it means a large increase, all along the line, of some form of socialism, I have personally no doubt whatever. But such an extension of intelligent, social control over an area which hitherto has been left to the free play of individual self-interest will be tolerable only on one condition, that, namely, such control be really based upon knowledge, that the knowledge be widely diffused, and that it be continually subject to the correction of experience. The success of the extension of organized knowledge from the mastery of nature to the mastery of ourselves and of our destiny will depend upon the extent to which all controlled functions, individuals and groups, shall understand the basis, in objective facts, for the existence of such control. It is only the diffusion of knowledge that will enable individuals to participate in a social purpose which organizes and directs the development of human relations and institutions. Moreover, the knowledge which shall serve to organize the life of men in society must shed every vestige of dogma and of sheer authority; it must be experimental. And there will need to be a much wider diffusion among men of the experimental temper, of the willingness to be tolerant, and to submit ideas to the test of experience, than has hitherto been the case. Providing these conditions are fulfilled, I see not the slightest reason for fearing that the application of knowledge to the control of human society would mean

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the authoritative regimentation and Prussianizing of civilization, the coming of the servile state, which has so often seemed the only alternative to individualism and the invisible hand.

I may be permitted to say a word as to the proper attitude and spirit which should go with the study and teaching of ethics thus understood. If the central thing in ethics be, as I have said, the appraising of human needs and the adequacy with which they are being supplied by the existing structures of civilization, then it will not be strange if serious defects and opportunities for improvement are brought home to the mind of the student. There is a pathology of civilization as well as an anatomy and a physiology. But while this is so—indeed if it were otherwise there would be no occasion for any study of ethics at all—it should go without saying that nothing whatever in the shape of propaganda belongs in the ethics classroom, except the propaganda of openmindedness and intellectual integrity. I mention this here because I have been surprised to find those who have thought that the teaching of philosophy, and accordingly of ethics, implied the attempt to make disciples and to convert one's students to the beliefs which oneself holds dear. Where, as in ethics, the problems discussed are those which stir men's feelings, which involve the fate of established interests and institutions, it is all the more imperative that habits of critical analysis and rigidly objective observation should be inculcated and fostered.

Since I have touched upon the teaching of ethics, and since my audience is in part an academic one, I may, in closing, say a word about the function of the university in furthering the increase of our knowledge of human life, and in making possible the application of such knowledge to the practical affairs of men. There are three functions in this matter which it is essential for a university to perform, especially a state university

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in a democratic society. The first of these is the organization and fostering of all studies directed upon the present problems of civilization. Effectively to accomplish this, there must be intellectual coöperation upon the widest possible scale. Traditional lines of cleavage between the studies dealing with the life of man in society must be overcome. There will need to be built up a comprehensive yet flexible mechanism for bringing together and making accessible the existing store of knowledge, the intellectual capital, bearing upon the problems of society. Scholars and workers in every branch of this field must be trained to see the bearing of their specialized pursuits upon the problem as a whole.

But secondly, there will be an increasing need in the society of the future not only of men who are investigators and organizers of knowledge, but of men charged with the business of converting theory into practice. These are the men who in one capacity or another will perform useful social functions in a professional and scientific spirit. They will be civil officers, public servants, captains of industry, teachers, and many others. The possibilities here are without limit. Whenever any body of knowledge comes into existence which should be utilized in the fulfilment of a social function, there will be the nucleus for a vocational or professional school. The only alternatives are quackery and demagogy. I believe that there are already opportunities here upon which our universities should seize. A School of Politics, to train men for all branches of public and social service could, to great advantage, be organized at once in the University of California.

But there is a third function, and, in my judgment, the most important. The best efforts of the university should be directed to diffusing among all students who come to the university a knowledge of the existing problems of civilization, and some idea of what it would mean

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to solve these problems in an intelligent and enlightened manner, rather than to allow things to drift until the only resort is the barbarian appeal to arms and to force. The university should ask of all its students that, at some place in their college career, they obtain an elementary knowledge of the human and social order in which they will have to live, and which they will help to shape. No matter what the future vocation of the student is to be, whether engineer, doctor, business man or laboring man, there is one vocation required of all alike, the vocation of living as an intelligent and alert member of society, awake to its problems and vitally interested in the reasonable solution of those problems. I am convinced that the university could reasonably ask all its students to take at least one course having for its aim a survey of present civilization and of the historical processes which have made our social world what it is. Of course, such an undertaking would be exposed to all the dangers of superficiality and of dilettantism. But if the university cannot offer such organized knowledge to all its students, the university confesses its failure to meet the requirements of citizenship in a democratic society. But there is more that the university might accomplish. There are large numbers of students who would welcome not only a single course but a well organized curriculum centering around the problems of human nature and of society as they exist at the present time. Such a curriculum would bring within its scope the fields of history and anthropology, psychology and philosophy, economics and political science. It would be designed to acquaint the student with the historical and psychological roots of the existing fabric of civilization, the ideas and institutions which make up our social environment. No such curriculum exists at present, at least in this university. Instead we have many diverse and specialized courses, most of them, no doubt, valuable and important. But each one of these courses would gain

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enormously in power and value if it were an organic part of a flexible whole.

We are, I suspect, handicapped in the effort to build up such a curriculum by the tradition that, other than the natural sciences, the only province of culture and education is to be found in the field of letters, an acquaintance with language and literature, with the way in which the imagination of great writers has played upon the scenes and events of human experience. I should be the last to minimize the ennobling and liberating results to be derived from the knowledge and appreciation of great literature. But one may pertinently ask whether the time has not come, if not to add a third thing to the expression "College of Letters and Science," at least to recognize within that college a field which is neither that of letters nor of natural science. We need to be reminded that human life and society, the evolution of civilization and of institutions, supply us with a legitimate and pressing field for scientific and philosophical inquiry, worthy of a place by the side of letters and natural science. I suspect, indeed, that the pure study of letters carries within itself the seeds of dryness and devastation unless it is illumined by a humane interest in the vital problems of man's life in society.

There is an important sense in which it may be said that the university today constitutes the last defense of civilization against fanaticism, against the attack of predatory interests, against the rise of cults and superstitions, all of which, if unchecked, will overwhelm us. And the university can come to the rescue of civilization, it can aid the efforts of men to build up a social structure worthy of human dignity and reason only in so far as it stimulates all its students to understand what it is that human nature needs, and what our human resources are for supplying these needs. This is the study of ethics, and this is my apology for that study.

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THE WAY OF PEACE

(Translated from the twelfth book of the Mahabharata)

ARTHUR W. RYDER

In shifting joy and grief
  Should I rejoice, repine,
I should despise the soul
  That I must still call mine.

Because this life, this world
  Are other men's no less
Than they are mine, I win
  An end to all distress.

As log meets log upon
  The sea, and parts again,
So kinsman, friend, and son
  Love and abandon men.

Grief starts and ends as joy;
  Joy starts and ends as grief.
The wheel, while whirling, finds
  Antipodal relief.

With countless bonds of love
  Men cling to objects, and
Assailed by failure's waves,
  Collapse like banks of sand.

To him with foe, with friend,
  Him lacking friend, or foe,
To wise or fool, comes joy,
  If fate will have it so.

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To hero, sage, and coward,
  To poet, dullard, fool,
To weak and strong, comes joy
  By no discovered rule.

To him who drinks her milk—
  Obtained no matter how—
Calf, herdsman, king or thief,
  A cow is still a cow.

The dullest wights on earth
  Live joyfully; and so
Do men supremely wise—
  The rest are sunk in woe.

For brave men love extremes,
  Never the prudent mean;
Extremes, they say, are joy;
  And grief, what lies between.

The dunce sleeps joyfully,
  Setting his deeds aside,
Wrapped in his foolishness
  As in a blanket wide.

The man supremely wise,
  Past opposites, and all
Mean envy, sees unmoved
  What good or ill befall.

While men not wholly fools,
  Yet something less than wise,
Are boisterous in success
  And writhe when fortune flies.

The fool is always gay
  As angels are in heaven,
Glad in his self-conceit,
  That gift by folly given.

Joy ends in sloth—and grief;
  Grief ends in skill—and joy.
And fortune dwells with skill,
  To sloth is ever coy.

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Then greet whatever comes
  Of joy or grievous smart,
Delight or pain, with brave,
  Unconquerable heart.

A thousand sorrows and
  A hundred fears assail
The fool from day to day.
  The wise man does not quail.

For sorrow cannot touch
  The truly modest soul,
Long-suffering, peaceful, wise,
  Rooted in self-control.

If your own limb should be
  The seat of sorrow, doubt,
Wrath, or timidity,
  Cut roots, and cast it out.

Desires, departing, leave
  A void. Joy fills it higher.
But he who will pursue
  Must perish by desire.

All heart's desires of earth
  And heaven's great bliss fulfilled
Form one-sixteenth the joy
  That comes from passion stilled.

This wisdom clasp. Faint not
  Upon the righteous path.
Scorn all desires of sense,
  And put behind you wrath.

For love is death that lives
  And feeds within the heart:
And anger lives until
  The soul and body part.

As turtles pull inside
  Their shells, pull free from sin:
For glory, light, and peace
  Are only found within.

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Whatever deeds are done
  By one who thinks "'Tis mine,"
Slope downward through remorse
  To death, in sure decline.

When none has fear of you,
  And when you find release
From fear and hate and hope,
  You have eternal peace.

Leave true and false behind;
  Sorrow and glee control,
Pain, pleasure, safety, fear—
  Find rest unto your soul.

Be brave! Let sinful word
  And thought and action cease
Toward every living thing—
  So find eternal peace.

Passion—the fatal taint,
  The fool's enticing toy,
Still young in aged hearts—
  Abandon. This is joy.

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FINANCIAL SUPPORT FOR OUR UNIVERSITIES

A CONSTRUCTIVE CRITICISM

CHARLES B. LIPMAN

We are much, perhaps overmuch, given in this country to the making and use of slogans. It is unfortunate, however, that they are often used with little thought of their significance or of the considerations, if any, which give them birth. Such is the case with the much used and abused slogan of the "underpaid college professor." A public which is never ready to regard critically these ready-made substitutes for independent thinking has taken up the cudgels in the campaign for increased endowments and other means of ameliorating the supposed undesirable economic state of the university teacher. Always susceptible to the power of such suggestion people generally have not stopped to ask themselves what might be the cause or causes for the conditions which they deplore; and whether or not certain changes in our university systems could be carried out which would render unnecessary, at least to a large degree, resort to the search for increased endowment. As a result of this uncritical attitude there have developed in recent weeks or months campaigns for increased endowments in several of our universities. The public has thus recently become well acquainted with the efforts of Harvard University to raise a fund of $15,000,000, of Princeton University to raise $14,000,000, of New York

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University to raise $6,000,000, of Cornell University to raise $5,000,000, of Rutgers College to raise $1,000,000, and so on in other institutions. However we may regard the results to date of these campaigns there can be no doubt that they have been attended with considerable difficulty. Even Harvard University, with its large and exceptionally loyal alumni body, with the glamour of its traditions, with all the large wealth and influence attaching directly or indirectly to the oldest university in the country, is now making very slow progress in the climb from the $10,000,000 to the $15,000,000 mark. It is of course remarkable that they have so easily attained to the $10,000,000 mark in view of the numerous calls for donations to which the public has in recent years responded so liberally. But the other institutions are not faring at all well so far and it is still problematic whether or not they can succeed in attaining the desired goal. The worst of it all is that even if they should succeed, the fundamental problem remains still unsolved. Even if they could be used exclusively for that purpose, the endowments in question can go only a little way toward increasing salaries of instructors, as anyone can see for himself by computing the interest at five per cent which the respective amounts can yield. With the purchasing power of the dollar down to about that of forty cents seven or eight years ago, salaries must be doubled in order to make possible the scale of living which obtained in 1912; and even then complaints of "underpaid professors" were quite pronounced.[1] But how can salaries be doubled from the incomes at present available added to those from the new endowments which we shall assume can be obtained? Obviously it is impossible. On the other hand, to expect very wealthy friends of our universities or even the state governments to which they belong to keep on adding to the endowments of

[1] The question of whether or not the college professor is underpaid under normal conditions is one which cannot be discussed here. I think that, as a rule, he is not underpaid.

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the institutions is unreasonable. There must be a limit, and one which is soon reached, to the amount of money which a state can afford to appropriate for purposes of education. This must be obvious to anyone who will reflect on the numerous purposes to which public funds must be devoted, to the necessary limits which taxation must place on the total funds available, to the present strong protest against high taxes, and to the general reluctance of legislators to increase very much the incomes of state institutions. Similarly, private wealth is very coy and it is difficult, very difficult, to separate it from the strong boxes of its possessors. It is "a condition which confronts us, not a theory." I have tried to regard this phase of the problem from every angle and have discussed it with many men who have given it much time and thought. The final result of its consideration always is to impel me to the ineluctable conclusion that, if not impossible, it is highly improbable that our universities can obtain funds large enough from bequests, donations, or state appropriations which together will be adequate not only to pay salaries which are commensurate with the cost of living, but to provide equipment and running expenses for the constantly increasing cost of "running" an institution of higher learning *upon the basis now in vogue.*

Among the other possibilities which university authorities have considered for increasing their incomes has of course been that of increasing the tuition fee. This is an expedient, however, which is limited in usefulness not only because the increased incomes therefrom will be inadequate, but because it defeats its own purpose largely by cutting down the number of students registered. Moreover, and this is probably the most serious feature of the expedient of increasing the tuition fee, it is a measure which is undemocratic and for that reason, if for no other, can hardly be resorted to by state universities. Obviously a high tuition fee in our

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colleges would limit higher education to the few; and even privately endowed institutions in this country do not wish to lay themselves open to the charge of being undemocratic and intended for the classes alone. There is already some opprobrium of that kind attaching to our universities and care will be exercised that it is not allowed to increase.

If, then, on the basis of the foregoing statements, universities cannot supply the needed funds from resources which are available or in sight, how may they attack the problem with more fortunate results? My constructive proposal in answer to this query is twofold.

1. Consolidation of departments or schools of certain types now in different universities. By this means the support now given to two or more schools may be devoted to one.

2. Reduction of the number of students in every institution by the system of admission only through entrance examinations.

Let us now consider each of these possibilities.

1. The colleges and universities of this country have been established and have grown to their present estate through private munificence or through state support. Whether it was an ostensible need in the state which gave them being, a desire upon the part of some benefactor to perpetuate his name, or the wish of some religious denomination to possess an institution of higher learning which it could control, there have been few instances in which much foresight entered into the foundation. Founded as a rule in times when the population of the country was small, the cost of living low, and the facilities needed for education meager, the colleges believed themselves safe with small endowments. There have thus come into existence scores of institutions with small financial support, each of which was launched into the world with little regard for its predecessors or contemporaries and the effect which these would have on one

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another. If any thought was given to the institutions already existing it was usually to the effect that a rival institution was desirable. Not one of the institutions seems to have been established on the thoughtful basis that it might form a necessary and indispensable cog in the wheel of a comprehensive system of American education. It is indeed strikingly singular how individualistic our institutions of higher learning have been. Not that I would for a moment decry the development of individualism there. On the contrary; but when one really has at heart education in general or education in any special field is it not incumbent upon him to further its interests in the light of conditions already in existence? And yet such has not been the case. Every institution came to be established without regard to the effects of its establishment on similar institutions already in existence. When economic conditions were different from those now obtaining in this country, and when the development of science and art had not reached the stage of elaborate requirements for teaching and research, such a policy could be followed, if without success, at least without hindrance. And so the institutions developed as best they might from the support which chanced to become available to each of them. But as everyone well knows, those days have departed, probably forever, and economic conditions are such as to render lamentable the conditions in nearly all our universities and colleges. The result of all this, moreover, is that we are confronted by numbers of engineering schools of all types and sizes, by numbers of medical schools, schools of forestry, of education, of commerce, and many others in as many fields. Then, too, to satisfy the vanities of ambitious executives or boards of trustees, to strengthen competition with other institutions, or to comply with some form of unwarranted public pressure a large variety of expensive but little used departments were established no matter how well the

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subjects in question were already cared for in other institutions.

It is my contention that this state of affairs is no longer tenable in the face of the present economic conditions in the United States; and there is little likelihood that the economic conditions in question will ever change for the better to a marked degree. It is my first proposal therefore that a real coöperation be instituted among our universities and colleges such as they have never had and which shall have for its object the furtherance of American higher education regarded in the large; and that this coöperation be made to result among other things in the consolidation of similar departments or of similar schools in different universities in such manner as shall conduce most fitly to effective and economical education. I do not wish to make any invidious distinctions and the examples which I have chosen to illustrate the point which I am making are chosen at random. I would ask why in all conscience the country should be asked to support so many mining engineering schools each with only a few students who are educated at very large expense? Why can't we have only eight or ten or fewer first-class mining schools in the country each having all necessary facilities and a strong faculty and supported by the resources now at the disposal of perhaps twenty or thirty such schools? These schools can be properly distributed geographically and the universities giving up mining departments will not be hurt by the renunciation since they may thus have more resources for the remaining departments which may be reinforced thereby into strong agencies receiving respect everywhere. This will tend not only to make every university particularly noted for the excellence of its teaching and research in say five or six fields, but in its general teaching it may become immeasurably more effective.

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The situation in our medical schools is perhaps even more serious than that in our mining engineering and other engineering schools. The modern medical school with its hospital equipment and rigorous curricula is a highly expensive institution to conduct. Yet we have many examples of numerous rival medical colleges no one of which possesses enough income, equipment, teaching force or students to justify its independent maintenance while consolidation of two or more of them might easily make possible the proper conduct of one strong medical school which would be a credit to the profession and a blessing to the public.

Similarly I might make even a better case for the consolidation of law schools frequently existing in numbers in one and the same city, and each constantly begging for more funds for its support, yet no one of them is overburdened with numbers of students. Why not make full use of the expensive faculties we now have in our good law schools, why not make more efficient and useful their splendid and costly libraries, why not utilize to the utmost their magnificent buildings and equipment? Many of the small, inefficient law schools could be closed up and their resources combined with those of the bigger institutions with positive benefit to the schools and to the public.

Similar arguments could be made in connection with any of the professional schools or colleges of our universities. It should be noted particularly however that in the matter of schools of forestry and schools of education we have perhaps erred most grievously, because most recently, and hence when we should have known better. The demand for men in the profession of forestry is not only limited but the profession offers relatively small financial rewards. Why then we should maintain very expensive schools of forestry each with a handful of students in so many institutions of this country passes my comprehension entirely. So too the new schools

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of education furnish a good example of our constant tendency to "spread thin" instead of building deep and strong. Recently foundations have been established and others are being sought for very elaborate schools of education in the very face of admissions that the faculties in existing departments are underpaid, and of attempts to obtain large endowments for remedying that condition. How can sensible and honest people reconcile these two opposing tendencies in the same institution?

But the undesirable situation is not confined merely to schools and colleges in our universities. The smaller administrative units are in many cases subject to the treatment suggested above for colleges and schools. Such departments as those of Sanskrit, Oriental languages, Semitics, and Slavic languages might each well be limited to three or four institutions in the country where the scholarship in those fields could be concentrated and maintained at a high plane. This would mean an appreciable saving to a number of our institutions and would at the same time insure appropriate support for those departments where they do maintain. Students in any state showing special aptitude in those languages could be sent by the state from the state university to the proper institutions at smaller cost by far than that involved in the maintenance of many separate departments in all the principal universities. The theological seminaries would likewise be the gainers through such an arrangement.

It should be pointed out with all possible emphasis that not satisfied with having more departments and "schools" to support than their funds will allow, the universities keep yielding to pressure from the public to establish new "schools" and new departments. Such new burdens of course only result in aggravating an already deplorable condition. To every pressure exerted by the public to establish some new department or new "school" the university yields and thus as year follows

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year it is obliged to spread more and more thinly a very nearly fixed income. The people who exert the pressure which results in this "spreading thin" process have no appreciation nor realization of the hardships to which they expose the institutions merely to gratify some influential person, or clique, or industry. Some people seem to be obsessed with the notion that everything which is learned anywhere must be represented by a department or school in the university; just why I have never been able to ascertain. Why should all forms of education be concentrated in the university? Moreover, the people who are inclined to exert most pressure to gain their object of establishing new schools or departments in the universities are the very ones who are least willing to give material assistance to those institutions. This suggests other important features of the problem of the university and the public which are not involved directly here and to which I shall address myself at another time.

It is of course obvious that under the plan proposed above many departments in our colleges and universities would have to be maintained as at present. Such subjects as those of mathematics, physics, chemistry, botany, and many others are of course indispensable to all colleges worthy of the name. They are not now properly supported, however, because of the "spreading thin" process which we have discussed. If the consolidation of colleges, schools, and departments as briefly proposed above be instituted, the funds released thereby could be made to go a long way toward furnishing the proper support for the departments remaining in each of the institutions.

I am not unaware in making this proposal that the governing authorities of the colleges and universities in this country are likely to regard the plan as impracticable and illusory. This does not deter me from making it, however, since I know but too well why they would so regard the scheme. Institutions, like the men composing

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them, and for that matter like all men, are selfish. Partisan feeling and rivalries among the institutions run high for obvious reasons. It is only natural that this should be so. But I take it that one of the chief objects and missions of institutions of higher learning is to dispel so far as possible this very selfishness, narrowness, and provincialism. We of the academic spheres should be the leaders, and are expected so to be, in molding a finer spirit of coöperation, in making possible a constantly widening mental and moral horizon, in establishing the principle that every sacrifice for the common weal is well worth making. Regarded from this viewpoint there can be no insuperable obstacles to carrying into effect the plan which I propose. If we will but regard, and I plead most earnestly for such a view, the subject of American education by and large and not as standing for any creed, or sect, or class, or state, or city, we are perforce brought to admit that the principle of consolidation of schools and departments in our universities in the interests of efficient education and a better economic condition in the institutions, is perfectly sound and feasible. If we can divest ourselves of jealousies and pettiness in our relations one with another and every institution regard itself merely as one unit in a comprehensive scheme of education of the highest type for the United States, the plan proposed must appear thoroughly practicable. Everything is possible to those who will.

2. Limiting the number of students by requiring entrance examinations of all applicants. Until recent years most of the universities and colleges of this country were not overcrowded. The measurable improvement in the economic status of the laboring classes which has occurred in the last decade coupled with the comparative attractiveness of professional and technical work has impelled rapidly increasing numbers of our public school graduates to enter our institutions of

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higher learning. I cannot agree with those who claim that this aspiration of large numbers of our youth to enter the universities is significant of a real desire for enlightenment and a thirst for knowledge for its own sake. It seems to me to be largely due to economic impulses. But that is a consideration which does not concern us here directly. Suffice it to say, that the condition exists and that it has been much aggravated by the close of the World War. At the present time our universities are all overcrowded. The education of every student represents a very considerable monetary expenditure. The result is that even liberal appropriations in any institution are inadequate for its work. Many more instructors are required and much more equipment is necessary. If it could be determined that it is the proper sphere of universities to furnish better mental or technical equipment for the masses we could not of course cavil at the situation which obtains. But there is much reason to doubt that the highest centers of learning in our states should be the vehicles of ordinary technical education for average or below-average students. At much smaller expense and doubtless more thoroughly we could provide the necessary technical education for the less than average intellects among our youth in the high schools and technical schools which exist and in others which could be added. It seems to me entirely reasonable to expect that our universities should be reserved for the best intellects among our young men and women, and that the opportunity for a university education should not be cheapened but made a sort of prize for the best minds and those who are destined to be leaders among men. There always must be and will be leaders among men, just as there always must be and will be among them the "hewers of wood and drawers of water."

If all this be assumed, and the assumption appears to me to be entirely reasonable by whatever system of

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ratiocination we accord it, why should we not select for our universities by entrance examinations the best of our young intellects so as to have at least none of less than average ability within the academic walls. This plan moreover would be entirely consonant with the other proposal made above to render adequate or nearly so the present financial resources of our universities. The examinations set need not be very difficult nor numerous. Indeed they can be made very simple and a choice from only four or five groups of subjects would suffice for them. Even with such simple requirements there is good reason to believe that we could eliminate from thirty per cent to fifty per cent of those who are now admitted merely on a high school certificate. This surmise would seem to gain much support and acquire a new significance from the results of the recent "intelligence tests" which have been applied in an experimental way in some of our institutions during the past few months. Surely it would seem reasonable to suppose that young persons who are incapable of passing an easy "power" test in four out of five fields of study such as mathematics, natural science, foreign language, history, and English are not suited to university work and do not justify large expenditures of time and money by the university; especially since all such students are a hindrance to the speedy and inspiring progress of their more gifted and industrious fellow students. In view of these statements one is naturally led to inquire why so many high school graduates are considered incapable of passing such simple tests. How comes it that such meager mental equipment suffices to allow graduation from high school? That is a question which for lack of space cannot adequately be treated here and it is probably not directly germane to the subject of this paper. It may be indicated briefly, however, that the answer to such questions is to be found in the inferior teachers in which our high schools abound, in the willingness of

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teachers and principals to "pass" students because of pressure exerted by parents and local school authorities, and in several other considerations. To those who have observed the situation closely there can be no doubt of the facts.

I would like the reader to note particularly that this proposal for the limitation of number of students does not, like the increase in tuition fees, savor of anything undemocratic; nor is it so. It merely offers a competitive system like others already in use in other fields of human endeavor for recognizing the able and gifted and placing in their proper sphere those of inferior mental and general intellectual equipment. It places a premium on and furnishes an incentive to high grade intellectual development in our youth which is bound to redound to the untold credit of the country. It helps to solve one of the biggest problems in university support. It makes possible a more speedy and more effective education of those naturally destined for intellectual leadership.

I wish in addition to point out most emphatically that the adoption of such entrance requirements in all our colleges and universities will not work hardship to any class of our youth. Those young men and women who are not endowed by nature for education of university grade may be provided with technical education in junior colleges or advanced or technical high schools whereby they may be prepared for the numerous lesser tasks in our industrial and commercial life. It should be observed also that this proposal makes possible an assistance to the first proposal discussed above since it will permit of the removal to such secondary schools or junior colleges of many of the departments which have thus far been thrown helterskelter into our universities. It has always seemed to me ludicrous, and a serious reflection on the faculties and governing boards of our universities, that subjects of very widely different values in intellectual training should be given the same

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university credit and taught within the same walls. That "three unit" courses in cooking, typewriting, millinery, grading of apples, and so on should be regarded as equivalent in intellectual training to "three unit" courses in mathematics, physics, chemistry, mechanics, and physiology, seems to me to be a sad commentary on either the judgment or the honesty of those responsible for such a system. No reasonable and informed person can maintain that such equivalence exists.

This should not be taken to mean that I do not approve of instruction in the first-named subjects. On the contrary, I favor much wider and more thorough teaching of those subjects in every state in the union, but in special schools—not in the university. Let it not be assumed further from my remark that I am attempting to cast aspersions on those who are unfit for the study of mathematics, the sciences, or the languages. Far from it. I do not yield to anyone in my respect for those who are by nature endowed with skill for mechanical tasks but are not highly gifted intellectually. But the two groups of persons are different; they have different missions to perform in the world, and each should receive training in the environment best suited to it—the future intellectual leaders in the universities, the future leaders in the manual arts in technical schools.

These proposals in the interests of ameliorating if not of curing the deplorable financial condition at present obtaining in our universities may have been made before in one form or another. Certainly their possibilities must have occurred to thinking college men. But I have seen nowhere in print an emphatic, specific, and straightforward attempt to place the situation clearly and briefly before the public. This I have attempted in my humble way to do. Let no one say that these proposals are not feasible. Expediency and politics, and individual selfishness aside, they are perfectly feasible and practicable. What we need for the consummation of the end sought

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is a clear vision, an unselfish attitude, a willingness to coöperate for the general good. It would be my suggestion that a conference of representatives of colleges and universities be called for the purpose of formulating plans whereby the proposals here submitted may be put into effect. A general conference might first be held followed by special conferences in different geographical centers. It is needless to say that some of the changes will have to be made gradually. The adjustment of different faculties to the new situation might necessitate a period of two to three years in order that no unfairness to individuals might ensue. But all that is a matter of detail. I am chiefly concerned now with acquainting the public with the situation as I see it and with proposing perfectly practicable measures for its cure if we will but use them.

It is important to note that this discussion of the subject puts another face on the matter of financial support for our institutions of higher learning; that the cry for help which has gone up from those institutions, while in a way justified, is distinctly misleading in another way since it does not tell the public the whole truth, which is that the power to effect the cure for the present distressing condition is to be found largely within the institutions themselves. Merely another viewpoint, greater honesty, and more regard for the common weal are requisite for the purpose. A wonderful opportunity presents itself now for the universities to help themselves and to raise the plane of our higher education much higher than it now is. Will they avail themselves thereof?

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CLIMATE IN GEOLOGICAL TIME

ANDREW C. LAWSON

The uncertainty of the weather makes it a matter of perpetual interest. No two days are exactly alike. Anticipation of what the day is to bring forth—sunshine or cloud, fog or rain, warmth or chill, is a universal morning stimulus. The seasons bring in rotation their contrasted pleasures, yet no winter is the exact counterpart of another, no summer is the same as the last. The years thus have each their own characteristics, which are the subject of comment at the time, but which soon fade in our memories, save for the great flood, the great drought, or the heavy snowfall, that becomes a mark in the calendar whereby we reckon the passing years. In any region this versatility of the weather and of the seasons falls within certain limits which define what we call the climate. We may compare the climates of different regions by setting these limits one against the other and noting their differences, or we may more conveniently compare mean values for the range of temperature, humidity, precipitation. But, inasmuch as we have to deal with a number of more or less independent variables, the definition of climates for purposes of distinction is not a simple matter. It thus happens that while we all know that the climate of New England is different from that of California, and know that the difference is large, we have no simple formula for

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expressing that difference, but only long and inexact descriptions. When we attempt to compare two climates that are feebly contrasted, such, for example, as those of southern California and Arizona, our descriptions fail of discrimination and we are content to place them both in the comprehensive category of the arid climates. If, then, in the present state of knowledge, the definition of climates for purposes of comparison is difficult and unsatisfactory when we have to deal with existing conditions, how much more difficult and uncertain must be the characterization of the climates of the remote past and their fluctuations, when we have to deal not with a knowledge of temperature, humidity, precipitation, etc., but only with fragmentary records of the effects of these on the rocks of the earth's crust. Thus, in attempting to characterize the climate of the Pleistocene glacial period we are by no means certain whether the vast accumulations of snow and ice which mantled half of the North American continent were due more to a general decrease of temperature or to a general increase of precipitation. We might have today a recurrence of glacial conditions in northern Canada if there should occur either (1) a notable decline in the mean annual temperature, or (2) a notable increase in precipitation without much change in temperature.

If then I attempt to outline briefly some indications of the fluctuations of the climate of certain large regions in geological time, it will be understood that I make no pretense to be specific as to the details of the changes, or certain as to their causes. The general facts are, however, of extreme interest as a chapter of geological history which is being greatly enlarged at the present time.

At the outset it may be pointed out that certain changes of climate follow as a necessary consequence of (1) the variations in altitude of land masses and (2) the variations of the relations of sea and land. The uplift

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of the eastern part of the continent when the Appalachian Mountains were formed undoubtedly greatly modified the climate of probably half of the continent. Similarly when the late Cretaceous sea invaded the interior portion of the continent from the present Gulf of Mexico to the Arctic, a great climatic change must have accompanied the physiographic transformation; and an equally important climatic change must have attended the withdrawal of that sea from the continental interior at the close of Cretaceous time. The Appalachian uplift, as well as the invasion and withdrawal of the Cretaceous sea, are but instances of events which recurred many times in geological history; and the most elementary knowledge of this fact necessitates the recognition of climatic variations over vast regions. Such variations, due to the shifting of geographic control, do not, however, in themselves suggest any fundamental change in the climate of the globe as a whole. They are readily understood, in a general way, as a redistribution of conditions in the continental regions not involving any serious modification of the aggregate effect.

But the most impressive climatic changes which have occurred in geological time, changes concerning which we have the most positive evidence, are those which have taken place under geographical conditions that do not appear to have been very different from those which prevail at the present time. I refer of course to the oncoming and the passing of the glacial climate of the Pleistocene period. If the continent of North America had very much the configuration in Pleistocene time that it now has, the change of climate which caused the northern half of the continent to be buried in ice cannot be ascribed to geographical rearrangements of land and sea; and the same statement of course applies to the amelioration of climate which caused the ice to vanish. When we learn further that northern Europe passed through the same vicissitudes in the same period of

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time, the suggestion comes home to us with great force that the cause was a general one—so general that it must have affected the climate of the globe as a whole. And this question of the variation of the general climate of our planet far transcends in interest those minor, perfectly comprehensible redistributions of climate which I have already mentioned as due to geographical changes arising from oscillations in the relations of land and sea.

Our notions of the climatic changes of the Pleistocene period are necessarily dependent on our knowledge of the events in the geological record. In recent years that knowledge has been greatly enlarged by the activity of many investigators, and the ideas that formerly prevailed regarding the climate of the period have been correspondingly modified. In the days when the glacial hypothesis was first generally accepted as the explanation of the peculiar physiography of northern latitudes in America and Europe, it was supposed that the ice must have taken the form of a great polar cap extending outward in all directions continuously from the north pole to middle latitudes. This was the simplest hypothesis that could be formulated in view of the evidence then available as to the glaciation of northern lands. It pictured to the mind a single event of vast proportions which could only be accounted for by a radical change in the climatic conditions of the whole globe. With the progress of exploration and geological observation in northern latitudes this hypothesis was soon greatly modified; and in tracing these modifications we may with advantage confine ourselves to the consideration of the North American continent. It was found that the coastal portion of Greenland and extensive portions of the Arctic slope, for example, northern Alaska, had never been glaciated. The surprising fact was also discovered that in certain portions of the Arctic slope, for example, the region of the lower Mackenzie River, the direction of movement of the ice had been

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from the south to the north. These observations of course caused the abandonment of the polar ice cap hypothesis, and there was substituted for it the idea of a continental ice cap entirely distinct from an analogous ice cap in northern Europe and also from the ice cap of Greenland. The new form of the glacial hypothesis had scarcely been formulated before it also began to succumb to a most interesting series of observations. These had to do with the moraines of the continental glacier on the southern margin of the glaciated area. These moraines are nothing more than the rock débris that had been carried forward by the ice in its slow movement from northern to southern latitudes, and had been spread out in irregular sheets at the margin of the ice, particularly as the ice finally retreated from its extreme position. It was found that this morainic material, when subjected to stratigraphic methods of investigation, was composed of several sheets each having its own peculiar characteristics, superposed one on the other. It was found, moreover, in several places where one morainic sheet lay on another that a considerable interval of time had elapsed between the deposition of the first sheet and the second sheet. In that interval wide bottomed valleys had been carved out of the earlier moraine and these were filled with the later moraine. These valleys are many times larger than any valleys that have been eroded in the latest moraines so that the interval between the deposition of the two moraines must have been much longer than the time which has elapsed since the last disappearance of the ice. The materials of the upper moraine are fresh and undecomposed whereas the underlying, older moraine is deeply oxidized and decayed and this decay had taken place before the deposition of the upper moraine. Here again the time necessary to effect the decay must have been much longer than that which is elapsed since the deposition of the second moraine. Not only has the lower moraine deeply decomposed but

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it has been leached of its lime contents far in excess of the similar leaching of the upper moraine. These three lines of evidence from relative erosion, decay, and leaching all agree that the interglacial interval was much longer than postglacial time. Besides this we find evidence at numerous places of the existence of swamps, lakes, and forests in the interval between successive moraines. One of the most striking instances of this is at the city of Toronto. Here resting on an older moraine are lake beds containing numerous remains of animals and plants. The flora is that of the latitude of southern Ohio at the present time. Resting on these lake beds is another sheet of till or morainic material. It is clear that in the interval between the deposition of the two till sheets the latitude of Toronto had a climate as mild as that of southern Ohio and that this was subsequently displaced by a climate of sufficient severity to produce general glaciation. On the basis of these and similar observations it was established that the glaciation of the North American continent was not a simple event, but that the phenomena represent a sequence of glaciations with large interglacial intervals which, in some cases at least, enjoyed a climate even milder than the present.

While these ideas were being developed, explorations in northern Canada brought to light new observations of great interest. It was found that the western or Cordilleran glaciation was earlier than the glaciation of the central part of Canada, and that the movement of the ice had been outward in all directions from a center of dispersion in the northern Cordillera. It was discovered also that the movement of the ice in the region between the Cordillera and Hudson's Bay had been outward from a center of dispersion in the district of Keewatin; and that similarly the movement of the ice in Labrador had been outward in all directions from the center of that great peninsula. These observations

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had the effect of breaking down the hypothesis of continental glaciation and substituting for it the idea of a series of at least three great ice fields each with its own independent center of dispersion. These have become known as the Cordilleran, the Keewatin, and the Labradorean glaciers, and some observations published within late years indicate that there may be a fourth, for which the name Patrician glacier has been suggested.

Now the interesting thing in this connection is that these great glaciers or centers of dispersion are not only discrete geographically, but that they are also separated in time. The successive moraines which have been discriminated on the southern margin of the glaciated area have been correlated with the ice from different centers of dispersion. The lower or older moraines have been shown to have been deposited by the Keewatin glacier, while the later overlying moraines are clearly referable to the Labradorean glacier, and there was probably a succession of invasions from each of these centers of ice dispersion. It has thus become clear that the glaciation of North America is referable neither to a polar ice cap nor a continental ice cap, but to a series of glaciations distributed both geographically and chronologically across the continent from west to east. And this fact must control any speculations we may indulge in as to the climate of the Glacial period. It is worth noting that the great Greenland glacier presents conditions which are analogous to those which must have prevailed in Labrador at the maximum of the Labradorean glacier, and in central Canada at the maximum of the Keewatin glacier; and that Greenland may represent the most easterly and latest of the series of centers of dispersion.

In other parts of the North American continent far beyond the limits of the continental glaciation, we have proofs of climatic fluctuations in Pleistocene time which are no less convincing than the fact of the great ice invasions. In the Great Basin, for example, to the west

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of the Wasatch, we have in Great Salt Lake the remnant of what was once a vast inland sea, which in geological literature goes by the name of Lake Bonneville.

The surface of this lake was once nearly 1,000 feet higher than the present Great Salt Lake as is shown by the shore lines distinctly scored on the slopes of the surrounding mountains. At its maximum the area of Lake Bonneville was about 20,000 square miles and its level was determined by an outlet, north of Ogden, to the drainage of the Columbia. It had reached this outlet by the slow rise of its waters in a confined basin, due to the excess of inflow over evaporation. If for purposes of rough estimation we assume that the evaporation is six feet per year, then the annual inflow to Lake Bonneville at its maximum stage, just when it reached the outlet, must have been in excess of a prism of water six feet deep and 20,000 square miles in area.

The area of Great Salt Lake is about 2000 square miles; assuming the same rate of evaporation the inflow cannot exceed a prism of water six feet deep and 2000 square miles in area if the surface of the lake remain constant or if it be lowering in level. It thus appears that the inflow of water to Lake Bonneville at its maximum must have been at least ten times as much as that now flowing into Great Salt Lake. There are of course errors in the assumption which I have made, but these will not affect the general contrast between the climate of Bonneville time and of the present.

But the humid conditions thus indicated by the filling of Bonneville basin to its rim were preceded by a condition of aridity more intense than that of the present. The basin was completely dried out. This in turn was preceded by a still earlier period of humidity when the basin filled with water to within 90 feet of its outlet and then subsided. The evidence of this earlier lake is to be found in its sediments, which are quite distinct from those of the second lacustral epoch, and in the shore

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lines which can be distinguished from those of the second lake. The evidence of the intermediate desiccation is found in the fact that the earlier lake deposits are buried by alluvial wash, and in the fact that the second lake was a fresh-water lake, as is shown by the fossils in its sediments; it could not have been fresh unless the earlier lake had been completely desiccated and its precipitated salts buried by alluvial wash beyond the possibility of re-solution.

We thus have in the geological history of the Bonneville basin the record of two humid periods alternating with two arid periods, one of the latter being the present. The period of time to which this record applies is the Pleistocene, and the climatic fluctuations to which it testifies are doubtless the same as those which caused the glaciation and deglaciation of the more northeastern part of the continent.

The succession of glacial and interglacial periods which marks the Pleistocene of North America has its counterpart in Europe, though there is much doubt as to the detailed correlation of these periods on the two sides of the Atlantic.

I may now proceed to point out that the peculiar climatic conditions of the Pleistocene are not unique in geological history, and that similar changes of climate have also occurred in the more remote past. Not many years ago the Pleistocene was the only glacial period known to geologists and it was, therefore, commonly referred to as *the* Glacial period. Today when we use this term we may be called upon to state which particular glacial period we are speaking of. For there are at least two others which are as well defined and as certain as the Pleistocene, and there are indications of others concerning which our knowledge is as yet very scant.

In the formations which were laid down in the Permian period, in the time transition from the Palaeozoic to the Mesozoic, we find abundant evidence of

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glaciation in several parts of the world. This evidence consists not only of morainic accumulations with ice scratched boulders and all the other characteristics of Pleistocene moraines, but also of scored and polished hummocky rock surfaces upon which these moraines rest. In some places there is a series of such morainic formations alternating with ordinary marine sediments containing beds of coal, thus showing incontestably that the moraines were laid down near sea level, and that climates severe enough to produce glaciation alternated with climates which were mild enough to engender the abundant vegetation necessary for the formation of coal. That is to say, there were glacial and interglacial periods in the Permian period just as there were in the Pleistocene.

This Permian glaciation was far more extensive than the Pleistocene glaciation and had a most remarkable distribution. In Pleistocene time the glaciation was roughly circumpolar in both the northern and southern hemispheres, a fact which accords with our natural expectations; but in Permian time the glaciation was nearer the equator than the poles and was distributed on both sides of the equator. A brief reference to the principal regions where this Permian glaciation is displayed may be of interest.

In southeastern Australia the glacial deposits extend over a belt extending from Lat. 30° S to 40° S, and are intercalated with marine sediments and coal measures, the lowest moraine resting, however, on well glaciated surfaces. At the same geological horizon glacial deposits are again found in Tasmania so that the known range of glacial conditions is from Lat. 30° S to 42° S. In South Africa moraines of Permian age are spread out over the greater part of the width of the southern part of the continent and extend from Lat. 24° S to 34° S. Here we have the remarkable fact also revealed that the Permian ice invasion was from equatorial regions southerly.

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And here again there is evidence that the deposits were laid down near sea level and that in part they were submarine. In peninsular India Permian glacial deposits are found in Lat. 18° to 19° N and again in Lat. 25° N; and in the Himalaya and Tibet as far as Lat. 36°. In South America, glacial deposits of Permian age are found in Brazil in Lat. 28° 30′ S interstratified with formations containing coal seams and Permo-Carboniferous plants. We thus have abundant evidence of an extraordinarily widespread glaciation in Permian time that was not circumpolar, was common to the two hemispheres and was characterized by fluctuations similar to those of the Pleistocene. There can, therefore, be no doubt that the climatic conditions of our planet in the Permian period were different from those of the periods which immediately preceded and succeeded it; and, if we may judge from the extent and distribution of the glacial deposits, the changes involved both in the oncoming of glaciation and the recovery from it, were even more profound than those connected with the glaciation of Pleistocene time.

If now we carry our inquiry still further back into the remote past we find evidences of another well defined glacial period in Cambrian time. In the Lower Cambrian rocks of Norway in Lat. 70° 8′ N a boulder till occurs resting on a glaciated pavement. In China in the valley of the Yangtze about Lat. 31° N, there is a boulder till of Lower Cambrian age 170 feet thick, the boulders in which show glacial polish and striations. In South Australia a Lower Cambrian boulder till occupies an area extending from Lat. 30° to 35° S and from Long. 137° to 140° E. Here the glaciated boulders occur in three formations interstratified with marine limestones, so that it is clear that there were fluctuations in glacial conditions at this early period similar to the climatic fluctuations of the Pleistocene.

Still further back in the pre-Cambrian formations of south-central Canada there occur rocks which cannot

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be distinguished from morainic deposits and in which there are glacially scratched boulders. The extent of this glaciation is as yet unknown, but the evidence, such as it is, is significant of a climatic change similar to that which brought on the Cambrian, Permian, and Pleistocene glaciations. Evidences of pre-Cambrian glaciation are also reported from Spitzbergen and South Africa.

Here it may be well to point out that we are not wholly dependent upon evidences of glaciation for our notions of climatic change in the past. There are other indications equally significant. To illustrate these briefly we may consider the Caspian Sea. This sea receives the waters of the largest river in Europe and the drainage of a large part of the lofty and snowy range of the Caucasus. Yet its surface is 82 feet below sea level and it is more salty than the ocean. The east side of the Caspian is more arid than the west and evaporation is more active. It results from this that a steady current from the open Caspian flows through a narrow strait into the Gulf of Kara Bugaz to make good the excessive evaporation in that part of the basin. This current brings into Kara Bugaz vast quantities of salts, which are accumulating as a chemical deposit on the bottom of the gulf.

These general conditions are determined by the extreme aridity of the climate of the region in which the Caspian basin is situated. If, therefore, we find among the formations of the earth's crust deposits of salts which can only be explained as due to conditions similar to those which now prevail in the Caspian basin, we may safely infer that the climate was arid in the region where they occur at the time of their deposition. For example, in the Silurian rocks of New York state and the adjoining region there are found at a certain horizon vast deposits of salt accompanied by beds of gypsum, which are taken to signify aridity of climate during that portion of Silurian time. Again in the formations that were laid down in the period of transition

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from the Paleozoic to the Mesozoic, including parts of the Permian and the Triassic, there are extensive deposits of red sandstones and shales of continental origin. That is to say, they were not deposited on the floor of the ocean, but on the surface of low lying continental areas above sea level. These "red beds" are widely distributed over Europe and North America and comprise numerous extensive deposits of salt and gypsum. It is most probable that these red beds and their associated chemical precipitates signify a climate of great aridity which was common to Europe and North America during this period of time. It is interesting to observe that this period of aridity on both sides of the north Atlantic was, in its earlier stages at least, contemporaneous with the glaciation of the continents which enclose the Indian Ocean.

Still other means may be used to trace out the fluctuations of climate in time, such as the luxuriance or impoverishment of marine faunas as indicators of the temperature of the sea water; but the consideration of these would carry us far beyond the space available. If I have said sufficient to make clear the general fact that the climates of the past exhibit something of the fickleness of the weather of today, I will go on to say something of the hypotheses that have been advanced to explain the changes we are considering. But before entering upon this phase of the subject, it may be well to remark that the general lesson of the geological record in regard to climate is that there has been a normal climatic condition which appears to have been not very different from that of today. The glaciations in particular regions at particular periods have been departures from the normal; and there has in all cases been a recovery to the normal condition. The periods of abnormal climate have been widely spaced and the periods themselves have been relatively short. The great bulk of the sedimentary rocks which enter into the make-up of the earth's crust, representing the products of the

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waste of the continental masses, have originated and have been transported and deposited under climatic conditions very similar to those of the present. The formations indicative of aridity or of glaciation are but a small percentage of the total volume of the stratified column. There is certainly no suggestion in the geological record of a general refrigeration of the planet, such as some have supposed to be our doom.

In considering the possible causes of climatic variation, and particularly in determining the most probable cause, it is well to bear in mind that there are three classes of hypotheses which have been formulated to explain the phenomena. In the first class the controlling idea is that the glacial periods are but extreme phases of a fluctuation which has been going on all through geological history as a wave-like departure on either side of a fairly constant normal mean, as a result either of astronomical influences or of rearrangements of land and sea affecting the circulation of the atmosphere. These hypotheses explain glaciation as the effect of a mere redistribution of climate and reject the notion that there has been any temporary increase or decrease of the total amount of energy received from the sun.

The hypotheses of the second class are based on the idea that, while the total amount of energy received from the sun may have been constant, the constitution of the atmosphere itself has been subject to change, and that this change has affected the climate of the globe as a whole.

The third class of hypotheses has to do with the assumption that the heat from the sun has varied and so caused radical but temporary changes in the earth's climate.

The most naïve hypothesis proposed to explain the glaciations of the past, and particularly the Permian glaciation, which seems to have had but little relation to polar regions as they now exist, is that the axis of rotation of the earth has not been constant in position.

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It has been supposed that the south pole in Permian time emerged in the middle of the Indian Ocean, so that the glaciation of Australia, Tasmania, India, and South Africa was in reality roughly circumpolar, just as that of North America and Europe was in Pleistocene time. This would of course effect a redistribution of climate without altering the total receipt of heat from the sun, and would be a fairly satisfactory explanation of the conditions prevailing on the rim of the Indian Ocean in Permian time. But unfortunately the emergence of a pole in the middle of the Indian Ocean necessitates another in northern Mexico, and the Permian rocks of that region show no trace of glaciation. Those who advocate this hypothesis, make no attempt, moreover, to smooth out the difficulties in celestial mechanics which flow from it, or, if they do, they have convinced very few people of their success.

Another hypothesis is that glaciations have been induced by continental uplifts and the subsequent deglaciation by subsidence. This notion found considerable favor some years ago when the Pleistocene glaciation of North America and Europe was the only one known to geologists, and when this was supposed to have been caused by a single continental ice cap. It is based on the fact that glacial conditions are characteristic of high altitudes in any latitude, and on the fact that in pre-Pleistocene time portions of the North American continent were somewhat higher than at present, as shown by the submergence of the ancient valley of the Hudson River, and by similar physiographic conditions. It is assumed that a moderate elevation of Canada, for example, would induce a winter so severe that the ablation of summer would fail to remove the annual snow; and this, of course, is all that is necessary to bring on glaciation. But since the multiple character of the Pleistocene glaciation has been established, and particularly since it has become known that the different

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ice invasions came from centers of dispersion that migrated across the continent in chronological progression, the elevation hypothesis has not been so fashionable. The recognition of the fact that the Permian and Cambrian glaciations were in part, at least, at sea level has destroyed the elevation hypothesis as a general explanation.

A third hypothesis ascribes variations in climate to astronomical causes. It is based on the fact that the axis of the earth continuously changes its angular relation to the plane of the earth's orbit, just as the axis of a top sways as it spins. This swaying of the axis of the spinning earth, as it revolves about the sun, is periodic, and causes the northern hemisphere to receive less heat and the southern more heat, and *vice versa,* at regularly recurring intervals of 21,000 years. The total receipt of heat, however, is constant. The objection to this hypothesis is that, if in itself the variation in the obliquity of the ecliptic be adequate to induce glaciation, we should have had several thousand glaciations in the northern hemisphere alternating with as many in the southern hemisphere in the course of geological time, which is of course not so.

But it is urged this periodically most favorable relation of the earth's axis to the plane of the earth's orbit may be combined with maximum eccentricity of the latter, which occurs at larger intervals, and the combination would intensify the conditions conducive to glaciation. It is pointed out, further, that these astronomical conditions would not only affect the obliquity of the ecliptic so as to distribute unequally the sun's heat between the northern and southern hemispheres, but that this migration of the thermal equator would also greatly modify the trend of oceanic currents, particularly in the Atlantic, so that, at the very time that the northern hemisphere receives least heat from the sun, the warm equatorial currents would be deflected toward the Antarctic, thus

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intensifying the unequal distribution of heat. But even under this form of the hypothesis there should have been many more glaciations than we have any trace of in geological history. We may, therefore, admit the tendency to alternations of refrigeration and warmth in the two hemispheres, but doubt seriously whether the tendency has been effective for the production of glacial climates.

Two hypotheses are based on the possible variation in the composition of the atmosphere, particularly in respect to its content of carbon dioxide and the vapor of water. It is a well-known fact that both of these gases play the rôle of a thermal screen in the lower strata of the atmosphere. The heat reaching the earth from the sun tends to escape by radiation but is absorbed by the carbon dioxide and vapor of water. The proportion of carbon dioxide in the atmosphere is very small—only about .03 per cent, but its importance in determining the habitability of our planet is large. The extent to which it traps the sun's heat and controls the temperature of the earth's lower atmosphere may be gathered from the fact that, according to Arrhenius, if the content of carbon dioxide were increased to .09 per cent, the amelioration of Arctic climate would be equivalent to a rise of the mean annual temperature of from 12° to 16° F; while, if the amount now in the atmosphere were reduced by half, the climate of the temperate zones would become glacial. It becomes a matter of interest, therefore, to inquire for a moment into the possible causes of the variation of the amount of this constituent in the atmosphere. First, as to depletion. It is well known that the vast deposits of coal which exist at various geological horizons in the strata of the earth's crust are due to accumulations of vegetable matter and that this vegetation has derived all its carbon from the carbon dioxide of the atmosphere. The formation of coal is therefore a process which tends to deplete the air of

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carbon dioxide. Again, limestone contains 44 per cent by weight of carbon dioxide. This comes directly from the sea water, very commonly through the agency of organisms, such as corals, crioids, foraminifera, etc., but is derived ultimately, so far as we know, from the atmosphere, since all carbonates in the sea are the product of the decomposition of rocks exposed to the atmosphere, and the carbonatization of the lime, magnesia, etc., which they contain. Now, the limestones known to exist on the continental areas are many times more extensive than the coal seams and many times thicker, and besides these there are very extensive limestone deposits on the floors of the oceans of unknown but doubtless great thickness. It is thus certain that the formation of limestone tends to deplete the air of its carbon dioxide far more effectively than the formation of coal. It is therefore not unreasonable to suppose that after periods characterized by the deposition of coal, such as the Carboniferous period, and *a fortiori* after the great limestone forming periods, the atmosphere would contain less carbon dioxide than at the beginning of those periods; and that consequently it would be less competent to retain the sun's heat in its lower layers. The result of this would be, of course, a reduction of the mean annual temperature over the entire globe. There can be no doubt that this tendency is operative, but its quantitative effect is uncertain. The effect is certainly not nearly so large as might be inferred from any estimates of the amount of carbon dioxide that has been fixed in limestone and coal; for there are other important factors in the problem. For example, there is about fourteen times as much carbon dioxide in the sea as there is in the air, and the amounts in the air and in the sea are always in balance. It follows from this that whatever quantity of carbon dioxide is removed from the atmosphere and fixed in coal or limestone fourteen-fifteenths of this is made good from the ocean. Or to state the case another way, if one

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part of the carbonic dioxide in the sea water be fixed as limestone only one-fifteenth of this amount will be withdrawn from the air to make good the balance, or maintain the ratio of fourteen to one.

Then we must consider the replenishment of the carbon dioxide which may be thus removed from the air. Volcanoes belch forth vast quantities of gases, and among these carbon dioxide is perhaps the most abundant. In certain epochs of the earth's history volcanoes have been far more numerous than they are today, and far more active. We might reasonably suppose that, after such an epoch, the content of carbon dioxide in the air would be augmented, and that the mean annual temperature would consequently be higher than before. But most of this added carbon dioxide must enter into solution in the sea in order to maintain the balance. Here again the tendency to climatic amelioration can scarcely be doubted, but the quantitative effect is entirely unknown.

The hypothesis that the fluctuation of the content of carbon dioxide in the air is an adequate cause of glaciation and deglaciation is a most attractive one. It involves the notion of climatic change affecting the whole globe. This quality of universality, however, affords a means of testing its validity. We can readily understand that, after the deposition of the great limestone and coal formations in the Carboniferous, the air might have been sufficiently depleted of its carbon dioxide to produce the refrigeration necessary for glaciation on the rim of the Indian Ocean in Permian time; but such depletion does not explain the absence of glaciation and the prevalence of aridity during the same period in North America and Europe. Moreover, the Tertiary, which immediately preceded the Pleistocene, was a period of widespread volcanic activity, so that the air of Pleistocene time should have been enriched in carbon dioxide. In spite of this enrichment

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we had extensive glaciation. Again it is difficult by this hypothesis to explain the relatively rapid oscillation of conditions within the glacial periods, as indicated by alternations of glaciation and deglaciation. In the face of these and similar criticisms the hypothesis fails of winning general acceptance.

Another hypothesis explains glaciation and deglaciation by a variation in the amount of heat received by the earth from the sun. It is based on the fact established by the observations of Langley and Abbott that the heat of the sun actually varies in short periods by as much as ten per cent. It is argued that, if variation in the sun's heat is a fact, the limits of that variation being unknown, there is nothing to preclude the possibility that there may have been notable variation in geological time. The universality of the temperature changes involved in this suggestion again affords the means of checking its value. The distribution of glacial conditions in Permian time does not accord with the notion of a general lowering of the temperature of the earth's surface, since under this condition the high latitudes would be more likely to be glaciated than the lower, and this expectation is not realized in the geological record.

These brief references to supposed causes of climatic variation show that none of them is entirely satisfactory. Those who argue in favor of any one of these hypotheses can of course make out a very much better case for them than I have been able to do in the space at my disposal. But those who criticize them adversely are also more trenchant and convincing than I have been in my attempt at a very condensed summary. In general I can only relate briefly the fact that, while the several hypotheses put forward have all had a sympathetic and interested reception, and while some of them have been distinctly popular for a time, none of them appears to be able to withstand the skeptical criticism that new

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knowledge suggests. If we admit that the general circulation of the atmosphere is subject to great changes which are for the most part independent of geographical changes it would be an easy matter to explain the variation of climate in geological time. But this would be merely a transformation of the terms of the problem, not a solution of it. A transformation of terms may, however, facilitate the solution, and if we consider the problem to be one of variation in the circulation of the atmosphere, I am tempted in closing to throw out a suggestion as to a possible solution. Hale's work at the Mount Wilson observatory has disclosed the fact that the spots on the sun are great magnetic vortices, or cyclones, and that there is a remarkable analogy, amounting to almost identity, between the general magnetic conditions of the sun and those of the earth. If this be so, and the magnetic disturbances of the sun affect this earth, as many believe, it may well be that the cyclonic movements of the earth's atmosphere have a magnetic origin. That there are secular variations in the earth's magnetic field is well known; and this fact is suggestive of the possibility that we may be on the eve of a new and fundamental hypothesis explanatory of the variation of climate. Whatever probability may be found to inhere in this suggestion, as to a connection between the cyclonic spots on the sun and the cyclonic movements of the earth's atmosphere, would of course flow from the splendid and thoroughly scientific work being done by Hale at Mount Wilson, and not from the exploitation of the popular credulity recently active at Santa Clara. And this brings us back to where we started, namely the uncertainty of the weather.

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SEEKING

JACK LYMAN

The cry of my spirit goes far astray
Calling, calling.
It echoes faint a distant way
On the edge of the world where night meets day;
It floats along earth's whirling way.
A dim spark, falling, falling,
And fades into spaces gray.

It calls when the moons
Silver my path with pale fire
And summon the heart's desire
Yearning, yearning;
Or when the bright golden noons
Cling with their burning.
And when I would be the beam of a star
Rapt to the realms where true dreams are
That voice is my soul's scimitar.

Shall it answer find in the rushing years?
Was that a cry
Deeply sounding in my heart,
The answering cry of one apart
So seeming nigh
But lost in the world's thick crowding spears?
I know not yet, but till I die
My spirit shall seek and its voice shall cry
Aloud for its answer unceasingly.

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THE ETHICS OF THE BHAGAVAD GITA AND OF BUDDHISM. I

CHARMIAN CRITTENDEN

In these days of eternal strife and unrest, when men's minds are entirely engrossed in the attainment of material well-being or in the advancement of the physical sciences, we of the West may well turn to the great philosophers and teachers of the East to gain some conception of the great spiritual peace in which they lived and taught. Absolutely, our part in the great drama of evolution is of no less importance and value than theirs; the man of the future must have high ideals both of physical and spiritual life; but relatively—that is, as we upon this little world may view it—how infinitely more necessary is spiritual satisfaction. It is the dessert of the meal of life, and epicures esteem it more highly than material satisfaction.

The aim of right conduct is spiritual satisfaction. By this last I mean the sensation of contentment that results from the conviction, emotional, mental, and intuitional, that some particular action is, under the circumstances, right, and as nearly perfect as possible. True contentment can result only after these three requirements have been satisfied, and this is the reason, I believe, that the people of our day and age are so seldom contented. An ordinary person is usually more or less developed emotionally and mentally, and also has

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occasional flashes of intuition; but the partial development of these three faculties causes him constant unhappiness: the dictates of the three differ widely and he is continually torn between these conflicting demands on his will. To one of perfect knowledge this strife would be non-existent, for such a person would recognize intuitionally the right or wrong of any action and, through the perfect discipline of both emotions and mind, would be quite indifferent to them.

For the ordinary man such coördination of intuition, mind, and emotion is absolutely impossible. Tormented by the eternal and useless endeavor to satisfy all the demands of his nature and thereby gain contentment, he limits the number of impressions that come to him through these three channels. The satisfaction resulting from such a compromise between absolute quietude coming from the gratification of all parts of his nature and the negative tranquillity resulting from the lack of all ideals to which any act must conform, is of a lower degree than that which he might attain by conscientiously trying to reconcile the ideals of intuition, mind, and emotion. However, since his outlook is so limited, this relatively insignificant satisfaction appears large. The Christian, for instance, refuses to listen to the demands of mind and of intuition. His mind revolts from the creation of the world out of nothing and his intuition from the monstrous injustice he sees in the world, for which the Bible offers him little real explanation. However, in order that he may not be hurt by the demands these faculties make upon him, he resolutely refuses to listen to them and devotes his time to cultivating an emotional devotion.

The West, broadly speaking, has developed its three faculties separately. The Middle Ages developed emotion, and from that time to the present day, man has been concerned with the cultivation of the mind. This is a wide generalization, but I believe it is fairly

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correct. The West has never had a truly intuitional religion; has never originated any religion except Stoicism.

India, on the other hand, has permitted the three faculties to unfold in a more rational and beautiful manner. While in the West one faculty alone was developed to the exclusion of the other two, India with her more tolerant spirit allowed all three to mature side by side. To produce truly satisfactory results, the unfolding of any one of man's powers must be continuous and not proceed by fits and starts. In India the former path was taken, and so we find a more symmetrical general evolution of ideas as well as a more complete expansion in each particular line.

In India, just as in the West, each philosophy decides whether its standard shall be intuitional, mental, or emotional, and constructs its beliefs and its religious life accordingly. But the similarity ceases here. India understood that if a philosophy once starts out to be mental, it ought not to be influenced by any emotional or intuitional considerations. I do not believe that European philosophers ever fully realized this. They seem ever fearful of offending some non-mental part of their nature, and hence never carry a purely mental implication to its logical conclusion, which would, more often than not, be emotionally or intuitionally distasteful. The Hindu requires the postulates of a particular philosophy to conform solely to the single standard, mental, intuitional, or emotional, of that philosophy. Each implication is carried to its conclusion according to this standard alone. Everything not in agreement with this standard is discarded, and it is precisely this casting off from everything not essential to the doctrine that makes Indian philosophy so impressive.

We have neither the great religious spirit the Hindus have, nor the moral courage to free ourselves from all worldly things and devote ourselves solely to salvation

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through the means given by the Indian philosophies. The best that we can do is to get some understanding of the more practical philosophies, and through them to strive for a better understanding of what we are doing here below, to learn how we may approximate contentment with what we do and how break loose from our continual striving for the unattainable.

The two Indian philosophies best adapted to the Western mind are, it seems to me, those of Buddhism and the Bhagavad Gita. Perhaps the latter is the more practical of the two, since it requires fewer abstract conceptions than does Buddhism and is constructed upon an emotional rather than a mental basis. Yet to my mind Buddhism is the more satisfying, and, from an ethical point of view, of greater value. The codes of morals set up by the Buddha and Krishna are quite similar, but there is a greater incentive to do right when knowing that thereby you are following one who did lead an absolutely irreproachable life, than to do right when knowing that the one who set that ideal before you failed to follow it himself. Theoretically this is incorrect, for Krishna is simply above all ideals of right and wrong. It is true that these are on a lower plane, yet the psychological effect of having before you a life so beautiful as that of the Buddha is a greater incentive to act rightly than that arising from a similar contemplation of the life of Krishna.

Perhaps the strangest, and to some, the most distasteful point in any Indian doctrine is the unimportant position to which the personality is relegated. Probably the belief in reincarnation has done much to create a somewhat exaggerated impression of the insignificance of individual existence. With hundreds of lives behind one and hundreds ahead it is quite natural that one should attach little value to a single reëmbodiment of the spirit in the cramped quarters of a human body which must be dragged about till the time comes for it

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to be relieved of its burden and to rest for a while in heaven or suffer in hell, as the case may be.

Again, the climate and geography of the country probably helped to foster this attitude. Enervated by excessive heat, man becomes incapable of withstanding floods and drought, plague and wild animals, all of which exact a dreadful toll of life. He soon comes to feel the futility of contending with the blind yet insuperable forces of nature through the grace of which he lives and in the fury of which he is destroyed.

Then above the heated plains where little men perform their little duties and live their little lives tower the mighty Himalayas, cloaked in ancient forests and crowned with eternal snows. Since time began they have stood there, dwellers in everlasting peace, silent witnesses of the never-ending strife of man. Is it strange that before these grand masterpieces of physical nature man should know himself to be the pygmy that he is—should despise the personality with its petty desires restricting and confining the divine life within, which, were it free, might ascend the Himalayas of the spirit? Those great-souled men who go forth into the silence of these mountains, leaving behind all that forms the life of the ordinary mortal, surely achieve the greatest reward that is given man on this earth to attain; but even the ordinary man who may look upon these manifestations of the strength and power of nature must sense something of the infinite Power that has made them possible. To my mind, the greatest pleasure that man may experience through his senses is the view of great distances from a great height. His self shrinks almost to nothingness while his consciousness expands until it seems to include the peace of the sunny plain below, the quiet of the thickly wooded valleys, the sinister unrest of the dark river in the shadowy ravine, the life-giving power of the sunshine, though feeling at the same time the exaltation of being high above the world, far removed from all that it experiences, yet still one with it.

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But I must come back to sea level and my point. The Westerner, whenever he comes face to face with any doctrine that teaches the relative unimportance of the personality, promptly retires into the shell of his belief in his own importance, and, refusing to see anything outside of this, lives happily on, blind to everything that he believes does not directly concern him. But if he dislikes the idea of his own unimportance, imagine his concern at being told he has no self—which is precisely what Buddhism would tell him.

This lack of individuality anywhere in the universe is the fundamental teaching of Buddhism, while the doctrine of the Bhagavad Gita depends upon the existence of Krishna either as a personal God, the soul-principle of the universe, or as the totality of individual souls, according as one views the book from the standpoint of the Yoga, Sankhya or Vedanta philosophies.

The Sankhya is the great mental philosophy. It affirms the existence of matter (*prakriti*) and Soul (*purusha*). These two form the universe. They are eternal, equally real, and forever distinct. Each atom of matter has one of these three qualities: Goodness, Passion, and Darkness (*sattva, rajas,* and *tamas*). Before creation matter was one homogeneous whole, Goodness, Passion, and Darkness being present in equal quantities and neutralizing each other. At creation the atoms of different qualities became separated from each other, so that now each material atom has a single quality. Soul consists of an infinite number of individual souls who are purely spiritual and who will eternally remain separate, one from the other. In some way or other the individual soul descends into matter, and attracts to itself varying quantities of Goodness, Passion, and Darkness. Now action takes place only in matter, never in Soul. The soul's only function is to bring that particular form which it inhabits to consciousness. After its descent into matter it believes that the action of

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which it is conscious in the form is done by itself. When the soul, through the use of the mind, fully realizes that it has no connection with matter and does nothing whatever, it attains Nirvana. It is freed from all further connection with matter, though the form to which it was last confined will live out its natural life without consciousness. There is no place in this system for gods, for, being spiritual, they could never act.

The Yoga is the emotional philosophy. It accepts the Sankhyan scheme of the universe, but it introduces a personal God. Nirvana in this system means union with God. It is attained by certain practices described in the philosophy. God helps his worshiper to attain this goal.

The Vedanta is the intuitional philosophy. In it the universe is spiritual, and it is the *Brahman,* the "one existing thing." The *àtman* is the individual soul, which is really identical with the *Brahman,* but through illusion (*màyà*) it believes itself and all other beings to be separate. All individual things, from earth to the highest heaven, are illusion and have no real existence. When the individual soul realizes its identity with the Universal Spirit it reaches Nirvana.

Since in any system of religion or philosophy the conception of the soul or self of man influences the ethical ideals possibly more than any other part of the doctrine, it is perhaps better to consider this subject further before proceeding. The views of the soul propounded by Krishna and the Buddha could hardly differ more than they do if they had arisen in two different worlds, instead of within the very same country. Both religions are tremendously influenced by their respective soul-theories; that of the Gita being virtually upheld by the Self of Krishna, while Buddhism, though bearing plainly the stamp of the wonderful personality of its founder, derives positive support from its "*anattam*" or soullessness.

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The theory of the soul as set forth in the Gita is probably the most beautiful and the most profound ever given to mankind, and, if one is not inclined to be disturbed over slightly illogical statements, it is also the most satisfactory. The doctrine of Krishna is non-sectarian. The Vedanta, Sankhya, and Yoga systems of philosophy are all represented, but in no single teaching do the elements taken from these three philosophies show so plainly as in the conception of the soul.

In the Gita (6:6) where Krishna says, "The Self is the friend of the self for him whose self is conquered by the Self, but the self is like an enemy and remains hostile to one who is without the Self," the thought is quite Vedantic. The "self" is evidently thought of as the *àtman,* or individual soul, which, while it retains its personal affinities, cannot perceive its real unity with the Higher "Self" or *Brahman* (here the neuter, all-pervading Spirit). When the self enters the Self, the union of the two is not only real, but realized, and they are "friends."

The doctrine of the "field" and the "knower of the field" is primarily Sankhyan. The field is primordial matter (*prakriti*) which through its own power performs every action that takes place in nature. The knower of the field is Soul (*purusha*). As was said above, Soul is composed of an infinite number of souls, which, though made of the same non-material stuff, are forever distinct and have nothing to do with matter, if only they knew it. Soul brings matter to consciousness, and during any soul's sojourn in one of its bodies it brings that body to consciousness. At the same time it confounds itself with matter under the impression that it does the work; though in reality there is no connection between itself, a mere observer of action, and matter, in which action goes on mechanically. Nirvana for the Sankhyan means the final separation of the soul from matter. This comes about through discrimination on the part of man between

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Soul and material processes. When he fully perceives that his body and soul have really nothing to do with each other, the soul is no longer attracted to the body, and is freed from all further rebirth.

In the Sankhya there is no connection between the different souls. They are infinite in number and never have been, or will be, one. But Krishna says (Gita 13:2), "Know me to be the knower of the field (Soul) in all fields (matter), O Bharata. Knowledge of the field and of the knower of the field is esteemed by me to be true knowledge." This certainly means that Krishna is all the infinite number of souls, and that in this way they are all one. But Krishna goes further than this. Not only does he unite all souls, but he also says that he is matter as well, thus making Soul and matter one in the last analysis. In this way he nearly turns the Sankhya into a lower Vedantic system. Of course in the true Vedanta, the soul-principle, the *Brahman,* is the sole reality of the universe, while matter is only *màyà,* or illusion, whereas in the Sankhya-Vedanta system of Krishna, *màyà* has as much reality as the *Brahman.*

If one wished to say that the Gita was chiefly concerned with a single one of the three great philosophies, it would be more nearly correct to connect it with the Yoga. The whole tenor of the work is primarily emotional: its appeal is to the will. It is hard for the ordinary, intellectually inclined Westerner to conceive of a personal God as being the whole universe, as Krishna says he is, or of such a Being including in himself the "Unmanifested Reality" that some of us may think of as being behind the physical universe. From these considerations it is plain that the Gita was not composed for the benefit of intellectual or scientific people who do not require a personal God to live contentedly.

Krishna's nature might almost be said to be utilitarian. He exists primarily for that great majority of people who need to worship some Being or beings of

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infinite power and strength, or at least of potency exceeding their own. Krishna considers this part of humanity as really great, though one hears comparatively little of them. He recognizes that there are a few who possess the faculty of intuition, by which they are enabled to see beyond the relatively unimportant strivings of the world into the true reality beyond. These individuals do not need him. By this peculiar gift they are rendered capable of perceiving that the reality of every individual thing is identical with the one Reality of the universe. When this insight is completely realized, Nirvana is gained. Of these he says (Gita 12:3, 4), "Those who worship the Imperishable, undefined, unmanifest, all-pervading, unthinkable, exalted, immovable and enduring, having restrained the senses and become of equal mind towards all, they attain to me, rejoicing in the good of all creatures."

There are again others who by means of the intellect alone may discriminate between the soul and processes of nature which have no connection with the soul. Such people who are able to follow the Sankhya, the way of the intellect, are perhaps more numerous than the Vedantists, but they also are in a very small minority. This path is harder for man to follow. In the Way of Intuition there can be no question as to whether it is hard or easy, for man either does or does not follow it according as he does or does not possess intuition. If he does, he follows that path naturally and easily; if he does not, the path cannot be hard for him, for he cannot follow it at all.

On the contrary, the path of mental realization is hard even for those who are intellectually fitted to follow it. "The toil of those whose mind is set on the Unmanifest is greater, for the path of the Unmanifest is hard for mortals to attain" (Gita 12:5). Very few people would be capable of the continuous mental effort of winnowing their soul from all their actions, yet when this

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is done—when the absolute non-activity of the soul has become not only an intellectual conviction, but a manner of action and a part of true understanding—the soul is freed from all further rebirth and connection with matter. The Sankhyan, of course, finds no necessity for a personal God.

The Yoga sets forth another method of attaining salvation which is less difficult for many people than the Sankhya. This necessitates great power of will and perseverance. The object is the realization of the oneness of the individual with the personal God, by means of certain exercises designed to bring about self-hypnotization through correct posture, restraint of breath, and withdrawal of the senses. This very high emotional exaltation is attainable by a greater number than the foregoing intuitional or mental realizations, but even those who are endowed with the faculties necessary for following any one of these paths form a minority among men.

There are some people who strive to attain salvation through Yoga and fail, because of insufficient control of the mind. Arjuna is concerned about these and asks Krishna (Gita 6:37), "If one is uncontrolled, yet full of faith, his mind wandering from Yoga, without having attained the full perfection of Yoga, what path does he follow, O Krishna? Can it be that he, falling short of both worlds vanishes like a riven cloud, or, O Mighty-armed One, does he remain wavering and confused upon the path of the *Brahman?*" Krishna replies that there is no loss for anyone who performs good works. Such a one enters the heaven-world that is gained by such deeds, and after living there for long ages, is reborn on earth in the house of pure and holy folk, or even in a family of Yogins, where, possessing the same attainments that he had won in his former life, he strives again for perfect attainment.

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The two paths that most people are fitted to follow are those of works: one, the renunciation of all selfish work—in which all action is performed as a sacrifice to Krishna without thought of personal reward, but solely for the good of other people; and the other, for those who are incapable even of this altruistic ideal of action, the resolute renunciation of all claim to the rewards that ordinarily follow the work they have done.

Knishna has a manifestation to fit the requirements of the nature of each of these five classes of people who in one way or another worship him. For the Vedantist he is the Supreme Eternal, the Highest Self; for the Sankhyan he is *purusha,* the soul-principle; for the Yogin he is simply Everything—the power behind Nature that causes all things to come forth at the beginning of a cycle and destroys them all at the end—the Lord of Beings. "I am the father of this world, the mother, the guardian, the father's father; I am the aim of knowledge, the purifier, the syllable *Om,* and the Rig, Yajur and Sama Vedas. I am the path, the Supporter, the Lord, the Witness, the resting-place, the refuge, the friend; I am creation, destruction and preservation, the treasure and the immortal seed" (Gita 9:17, 18). " 'I am the source of everything, from Me everything arises; thinking thus the wise worship Me, full of affection' " (Gita 10:8).

Those who worship Krishna through works are also provided for, whether they be polytheists or monotheists, for Krishna includes all gods in himself, and so ultimately, in sacrificing to them, they sacrifice to him. "Those who are devoted to other gods and who sacrifice to them full of faith, sacrifice to me, O Kaunteya, though irregularly" (Gita 9:23).

It will thus be seen that the whole doctrine of Krishna rests upon his own self, be it single or multiple or both.

It has been said that to pass from the Vedanta system with its exciting doctrine of the unity of the individual

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soul and the Universal Soul into the more austere and unemotional Sankhya system is like getting into a cold shower. To follow out the simile, to go from the doctrine of Krishna to that of the Buddha is like a plunge into interplanetary space. For the highly emotional, inspiring, and gorgeous doctrine of souls as expounded by Krishna is substituted the view that nowhere in the universe is there any permanent, abiding principle, spiritual or material. All individual things—gods, men, animals, vegetables, and atoms—all pass away in time, though they may in the case of the gods last hundreds of thousands of years. Such entities are generally compounded of various material, emotional, and mental qualities which are continually changing their mutual relations and never remain the same for two consecutive minutes.

Heraclitus has substantially the same view of eternal flux in the world. For him everything is involved in the ceaseless round of life and death. Nowhere is there any permanence or being, but only becoming. He says (Fragment 81),[1] "We both are and are not." An interesting parallel is found in H. C. Warren's "Buddhism in Translations," 166. "That things have being, O Kaccana, constitutes one extreme of doctrine; that things have no being is the other extreme. These extremes, O Kaccana, have been avoided by The Tathagata, and it is a middle doctrine he teaches": namely, "Dependent Origination," the process of becoming which takes place in definite order according to law. The law of change for Heraclitus and the law of Karma[2] for the

[1] Heraclitus, edited by G. T. W. Patrick.

[2] Karma may be interpreted in four ways: (1) Simply as work of any kind, physical, emotional, or mental. (2) The effect which this work as a cause will bring about. (3) Potential action laid up in the character, which is the result of former action, and will, in time, become actual. (4) The law of Karma, or the law of cause and effect, according to which every act brings about another act as its necessary consequence. It is, of course, to the last meaning that the above example has reference.

Regarding the law of Karma William James said (*Varieties of Religious Experience*, p. 522), "As I apprehend the Buddhistic doctrine of Karma, I agree in principle with that."

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Buddha dominate all processes of becoming. The latter, however, recognizes Nirvana, a state of pure Being into which the law of Karma does not enter. Fragment 20 (Heraclitus) runs, "This world always was and is and will be an ever-living fire, kindled and quenched according to law."

Buddhism, contrary to the doctrine of Krishna, does not at all depend upon the individuality of its founder, though I feel certain that the Buddhist is more influenced by the character of his teacher than is the follower of Krishna by that of his God. In fact, it is to be hoped that this is so, for Krishna is typical of the highly exalted, infinitely powerful personal God, that should be, and in Krishna's case is, beyond all good and evil, though including them both. Krishna acted in perfect accord with his doctrine as viewed from an intellectual and intuitional standpoint. Those people who are capable of interpreting his doctrine in these lights understand that nothing he does is to be taken as a measure of his character or nature. But do not those who are limited to an emotional understanding of the doctrine have to make exceptions for Krishna? And is it logical to expect that they can rightly comprehend the infinite nature of the God, and also their own limited nature that requires them to act rightly until they have at last merged themselves in him? Krishna says himself (Gita 3:21), "Whatever the best man does, that also the other people do. Whatever example he sets the world follows after." After saying this and realizing its full significance, it seems a slight flaw in his otherwise most practical doctrine that his own conduct was not altogether exemplary.

If the founder of any religion wishes that religion to be really practical, he should be perfect in conduct. The Buddha as well as Krishna had passed beyond good and evil and all the other pairs of opposites, but he did not proclaim the fact by transgressing any of the laws

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of conduct that would apply to ordinary mankind, but by rigid conformity to them.

The Buddha lays claim, of course, to no sort of divinity, for divinity does not exist except in a relative sense. Anyone may become a god if he try long and hard enough. Through good works and right contemplation he may attain to a term of life in some of the bright spheres, and if he does so, men on earth will call him a god. But there is no particular virtue in becoming a god. Man's true aim in life is to get rid of every sort of becoming, that is, to attain Nirvana. But since man is attached to this stream of becoming because he believes that there is some abiding principle that takes on different forms, the greatest obstacle to the attainment of Nirvana is just this idea of a soul. So the Buddha proceeds in true scientific fashion to inquire closely into what is meant by a soul in order to prove that it is not a permanent entity.

Almost every other religion admits that there is some sort of abiding spiritual principle. It may or may not have had a temporal beginning, but the one attribute that is agreed upon is its everlasting life. Beyond that it is true that the properties of the soul are only very vaguely conceived.

The Buddha's denial of the true existence of the soul is almost precisely like Locke's denial of the true existence of secondary qualities.[3] "Just as the word 'chariot' is but a mode of expression for axle, wheels, chariot-body, pole, and other constituent members placed in a certain relation to each other, but when we come to examine the members one by one, we discover that in the absolute sense there is no chariot—in exactly the same way the words 'living entity' and 'ego' are but a mode of expression for the presence of the five attachment groups, but when we come to examine the elements of being one by one, we discover that in the absolute

[3] Warren, *Buddhism in Translations*, 133.

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sense there is no living entity there to form a basis for such figments as 'I am' or 'I'; in other words that in the absolute sense there *is* only name and form."

Man gets his idea of an ego from watching other beings and objects working in such a way as to seem to be directed by an ego. If he analyzes himself carefully he will find that this idea of an ego proceeds merely from certain experiences of his. There is really no necessity for an ego, for the constituents of Being—form, sensation, perception, the predispositions and consciousness—account for all the activities that may be assigned to an ego.

If Locke had wanted to disprove the existence of the self, his procedure would have been precisely the same. He would have said that the idea of the existence of an ego was what most men called an innate idea. But in reality there are no such things, for an idea is never innate, but always comes from watching material objects in action and from cogitating and drawing conclusions from what we experience through any of our faculties. The idea of an ego is just such an idea and has no existence except in the mind of man. It is simply another secondary quality like color or justice.

Again, Hume's view of the soul is quite Buddhistic. In "A Treatise of Human Nature," Section VI, he says, "For my part, when I enter most intimately into what I call *myself*, I always stumble on some particular perception or other, of heat or cold, light or shade, love or hatred, pain or pleasure." The rest of mankind "is nothing but a bundle or collection of different perceptions which succeed each other with an inconceivable rapidity, and are in a perpetual flux and movement."

Compare this with the definition of the self given in a discourse between King Milinda and Bhante Nagasena.[4] Nagasena says that the flame of a lighted lamp does not remain the same flame throughout the night,

[4] *Buddhism in Translations*, 148–149.

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but that it consists of a succession of flames, each arising from the one preceding it. Hence "through connection with the first light was there light all night." He goes on to say, "In exactly the same way do the elements of being join one another in serial succession: one element perishes, another rises, succeeding each other as it were instantaneously. Therefore neither as the same, nor as a different person do you arrive at your latest aggregation of consciousness."

Farther on King Milinda asks, "Is form Nagasena? Sensation? Perception? The predispositions? Consciousness?"

"Nay, verily, your majesty."

"Is it, then, bhante, something besides form, sensation, perception, the predispositions and consciousness, which is Nagasena?"

"Nay, verily, your majesty."

Just as a butcher after he has slaughtered a cow and cut it to pieces no longer thinks of it as a cow, but as meat, so one who has analyzed his own body according to the elements of which it is composed ceases to think of it as an ego, and considers it only as an aggregation of elements.

Now when one is speaking of a person doing anything, he finds it inconvenient to say, "The form, sensation, perception, predispositions and consciousness which we know as John went for a walk." It is far easier to say, "John went for a walk," and to understand by "John" not an entity, but a certain combination of these elements. So man, like a householder, has taken this idea of an ego into his household as a servant. It has not remained his servant, though, and instead of being merely useful to him and affording him short cuts in speech, thought and action, it has become his comrade and equal, whom he finally seeks to please. Since the idea of an ego is essentially evil, hindering the attainment of Nirvana, it must sooner or later lead to the downfall of anyone who persistently caters to it.

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It is natural for man to search continually for unchanging entities. He finds himself changing unceasingly, the body slowly, the mind, emotions, and consciousness very quickly at times. Each one of the infinite number of changes brings pain. After many years have passed, the eternal flux palls upon man, and he wishes that either there should be nothing but change, so that his poor, weather-beaten ego might be annihilated at death, or else that there should be some permanent entity guiding him which is never annihilated. Both such theories are extreme. In believing the first, man gives himself over to sensual pleasures, believing these to be true happiness without any evil after-effects, since there is no ego to which these last may fasten themselves. In believing the second, man adopts some sort of "fanatical conduct" to purify his ego.

But one who is conversant with the "Noble Doctrine" never subscribes to the heresy that the ego either possesses or is comprised in form, sensation, perception, the predispositions, or consciousness, for he realizes that all these are transitory, evil, and due to causes. To be really desirable an ego must be permanent, inherently either good or transcending both good and evil, and self-existent. The understanding of the ego as merely an aggregation of evil, unstable elements, depending upon causes and subject to dissolution, precludes the possibility of attachment to anything pertaining to the ego.

In the Gita if the soul or ego were denied, the whole system of philosophy, ethics, and religion would tumble down like a house of bricks without mortar, as would nearly every other religion of any practical value. It is truly remarkable that any doctrine of life which has been so successful as Buddhism in point of adherents, true religious enthusiasm, and high practical moral standards should have for its main thesis a denial of what, for almost every other religion, seems a necessary requirement for true religious feeling, ethics, and even life itself.

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In accord with its insistence upon the balance of mental and emotional activity, Buddhism requires not only an intellectual acceptance of the non-existence of the ego, but also an emotional aversion to the mere idea of one. For a concise, complete, and convincing list of horrors that attend the ego, I have never seen anything to equal the Buddhist enumeration of the loathsome qualities which accompany all individual creatures, and all the evils the body is heir to. Nor are these to be merely read over and forgotten. They are subjects for meditation, and are a part of the "Four Intent Contemplations," specially designed to do away with the belief in an ego.

It may be somewhat puzzling to see how, if reincarnation is accepted by Buddhism, as it is by nearly every Indian religion, it can come about when there is no soul to be embodied. The explanation is this: that which we call the soul is merely the five elements, form, sensation, perception, the predispositions, and consciousness. In one way or another the Wheel of Existence got started (though really it had no temporal beginning) through ignorance on the part of some combination of elements we call a person. On account of this ignorance the consciousness of the person does not see the evil in the round of rebirth, and seizes upon this with the idea that it is happiness. So it performs Karma, that is, enters into action, not knowing that this is the cause of rebirth. Next it feels desire and consequently pain, and tries to stop this by further Karma, though Karma is the origin of all misery. There follows the thought that some other form of existence will prove to be the cessation of misery, or that sacrifices or austerities will lead to the cessation of pain. This, of course, is not true.

In each of these stages the consciousness seeks pleasure through the other four elements of being, and it is through this seeking that it develops new desires. But the consciousness is not capable of controlling the

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laws according to which it itself and the elements which it desires develop. Once it begins to attach itself to the other constituents of being it finds itself influenced by the changes that take place in these according to the law of Karma. Sensations follow sensations in a fixed order, one always being the necessary result of the one before it, and the cause that will bring as its necessary effect the sensation after it. So it is with all the constituents of being, including consciousness: once they have all been assembled in an individual, they all keep up a continual stream of becoming, independent of the guiding principle of an ego. Thus it is said that the groups (sensation, etc.) are the reapers, each of them possessing an inherent activity which must bring about a certain fruit that, when attained, brings pleasure or suffering to the individual who "did" the action.

> No doer is there does the deed,
> Nor is there one who feels the fruit;
> Constituent parts alone roll on;
> This view alone is orthodox.

Now at death all the groups but the predispositions and consciousness are scattered. These enter the new form of life, the consciousness having the predispositions as its object (these being merely the Karma of the late lamented). If the consciousness through ignorance does not perceive the evil in these predispositions it desires them. Then Karma imbeds itself once more in objects of sense, consciousness follows after them, and so again, through desire and ignorance, the weary round of existence is entered upon by the consciousness.

The consciousness of the two existences is not identical, for it is never the same for any two instants, nor is it absolutely different, for the consciousness of the second existence arose from the first, much as sour milk arises from fresh.

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But it is quite true to say that Karma does accompany a person from one existence to another:

> But every deed a man performs,
> With body, or with voice, or mind,
> 'Tis this that he can call his own,
> This with him take as he goes hence.
> This is what follows after him,
> And like a shadow ne'er departs.

This whole doctrine of the soul is preëminently Sankhyan. If the almost entirely inactive soul-principle, or *purusha,* were removed from the Sankhya altogether, merely its illuminating power being left, this last might well become consciousness, and the result would be a nearly Buddhistic scheme, save for the fact that here consciousness would be eternal. Of course in the Sankhya, Karma attaches itself only indirectly to the soul, whereas in Buddhism, Karma is an accepted part of the soul, without which it could not exist.

In the Sankhya, Soul, at death, has gathered to itself a certain portion of Goodness, Passion, and Darkness. In the next birth these qualities, following the material law under which they must act, will keep on working, the deluded soul attached to them believing that he is doing the work. Thus the character of the Sankhyan is material in its nature, while in the case of Buddhism it is nothing but an aggregation of qualities. These may be composed of what we call matter, but it cannot be matter in the scientific sense, eternal and indestructible.[5]

The methods of the Sankhyan and the Buddhist in attaining release from further rebirth are quite similar. Both must, by continual intellectual striving, recognize that nothing they do is done by an ego, but only by qualities, these being for the Sankhyan, material, and for

[5] It is strange that "qualities" should be the nearest translation for *gunas,* for "quality" in our understanding of the term might well apply to the five groups of Buddhism. With this in mind we could say that both in the Sankhya and Buddhism, all the work of the universe was done by "qualities."

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the Buddhist neither material nor non-material. Generally speaking, the ideal of Buddhism is more difficult of attainment, for its disciple must realize that there is no ego at all, while the Sankhyan's task is finished when he apprehends that nothing he does is done by an ego. Again the Sankhyan is given the positive good of non-activity toward which to strive, while the Buddhist must recognize that there is no good in either activity or non-activity.

Regarding the ideal state of the self, Krishna says (Gita 14:23), "He who remains like an onlooker, unperturbed by the *gunas* (Goodness, Passion, and Darkness), realizing that the *gunas* alone roll on, stands unwavering." The Buddhist ideal, expressed in the following stanzas,[6] is quite similar:

> Just as the earth, whate'er is thrown
> Upon her, whether sweet or foul,
> Indifferent is to all alike,
> Nor hatred shows, nor amity:
> So likewise thou in good or ill,
> Must even-balanced ever be;
> And when this Tenth Perfection's gained,
> A Buddha's wisdom shall be thine.

Buddhism more than the Gita takes particular pains to emphasize the evil of the unconquered personality. All the nobler emotions and sentiments are discouraged and hindered by the belief in any such abiding entity. This belief must lead to some sort of worry or bother about the ego, which, in turn, must result in the partial obscuring of the higher sentiments of man. But if the "I" is non-existent, the bother is also, and the result is a perfectly clear field for the action of every altruistic and noble motive.

In this connection I should like to call attention to verse 380 of the *Dhammapada* which certainly belongs in the Gita: "For self is the lord of self, self is the refuge

[6] *Buddhism in Translations*, 29.

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of self; therefore curb thyself as the merchant curbs a good horse." Now the *Dhammapada* is a Buddhist collection of verses dealing with ethical problems, and for it to speak of the evil and illusory self as the means by which the individual is freed from the Wheel of Existence seems rather strange after the usual orthodox denunciation of self. Of course there is no real difficulty, for the verse probably has reference to the fact that it is one's self alone that can effect his release, and no one else's.

Again, sorrow and individuality have precisely the same origin. Sorrow is the result of the effort which an individual has to make to keep separate from the rest of existence. If an individual thing comes into being, it must some day be destroyed, and it is to the effort to delay that dissolution that all sorrow and pain are due. Individuality necessitates limitation; from limitation comes ignorance; from ignorance comes error; and from error comes sorrow.

There is no way in which a man can consider himself as separate from the world. Back of him there is an infinite sequence of events that make his existence possible. He is merely another event.

A greater contrast to this view of the unimportance of the individuality could hardly be found than in the Vedanta. Here the individuality of each separate person is believed to be a true "abiding entity," which is identical with the self of every other person and of the universe.

This finishes the discussion of the soul, concerning which Buddhism and the Gita differ widely. From this point on I believe there are more resemblances than differences between the two doctrines.

(*To be concluded.*)

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"THE MARVELOUS MOUNTAIN"

The editors of the Chronicle take pleasure in presenting, through the courtesy of the artist, a reproduction of this striking etching of Mount Rainier, from Paradise Valley, the work of Mr. Roi Partridge. As the etching was made directly from nature upon the plate, the mountain is seen reversed. Attention may be called to the striking "line technique" of the picture: the dark sky behind the gleaming snow is made with lines, and the consciously decorative line is used throughout the etching.

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SOME ASPECTS OF THE ADRIATIC PROBLEM

H. Rushton Fairclough

The news of the formal acceptance of the Treaty of Rapallo by Italy and Jugo-Slavia has brought a sense of relief to all who were familiar with the troublesome Adriatic problem. During the two years that have passed since the armistice, political conditions on the Dalmatian coast have been well-nigh intolerable. This Slavic land, from which Austria had withdrawn her forces, was still debatable territory; for Italy, relying upon the secret Pact of London, was disposed to regard the eastern Adriatic coast as practically hers, had planted her soldiers at strategic points, was patrolling the waters with her ships, and essayed to dominate the whole region. The Jugo-Slavs, engaged as they were in the difficult work of reconstruction, but hampered by lack of money, of ships, and of materials, bitterly resented the constant presence of an alien force, which interfered seriously with travel and transportation, bottled up their harbors, and completely crippled all efforts to develop a maritime commerce.

But Dalmatia was not the only part of this Adriatic coast where the Italians remained in occupation. The same was true of Montenegro and Albania as well. The Pact of London had assigned Valona and its neighborhood to Italy, which was spending large sums in fortifying this Albanian port. At the same time, outside of

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the Valona district, Italy also supported large garrisons at Durazzo, S. Giovanni di Medua, Scutari, Kruja, Tirana, and elsewhere. These garrisons, being viewed by the native population with an ill-disguised hostility, were always more or less on the defensive, and at times were forced to engage in armed conflicts. Finally, however, some six months ago, the Italians realized that the Albanians would never tolerate the continued presence of an alien army upon their soil, and retired altogether from Albania. Today their only hold upon this land lies in the tiny island of Sasseno, at the entrance to the deep Valona bay.

The contest between Albania and Italy was a matter of profound interest to Albania's northern neighbors in Montenegro, who, notwithstanding their own disputes with Albania, looked with admiration upon that country's resistance to Italian aggression. The situation in Montenegro itself was a peculiar one. Here the evacuation of the country by the Austro-Hungarian troops was followed by a popular demand for the convocation of the national *Skoupshtina,* or Parliament, and on November 19, 1918, a general election was held, in which delegates were chosen to meet in Podgorica a week later. In this democratic gathering the deputies proclaimed the union of Montenegro and Serbia, and the entry of Montenegro into the new Kingdom of Jugo-Slavia. Nevertheless, on the plea that the status of the country was not yet officially determined, and that it was still "occupied" territory, Italian troops were retained in Dulcigno, Antivari, Staribar, and even in the interior, at Virbazar, on the western shore of Lake Scutari. Their presence was a constant source of irritation to a proud and spirited people, and the fact that no serious clash occurred testifies eloquently to the marvelous self-restraint which the Jugo-Slav government and the Montenegrins themselves have consistently observed during these many months of suspense and uncertainty. On one occasion the writer

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spent a night at Antivari, and Italian soldiers undertook to "shoot up" the town. A native official, representing the Ministry of Food, furnished the information that similar occurrences were to be expected about once a week, the object being, it was alleged, not merely to inspire fear of the foreign power which controlled the sea, but also to provoke an outbreak of riotous disorder, which could be cited as evidence of the country's dissatisfaction with its Serbian affiliation. The Montenegrins, it was said, were both eager and able to drive the foreign intruders from their shores, but were held in check by the Jugo-Slav troops. Strict instructions to avoid a clash had been issued by the government, which was supremely confident that the Peace Conference in Paris would sooner or later settle such international differences in an equitable fashion.

The Italian "offensive" in Montenegro was not confined to the occupation of a few points on or near the coast. The Montenegrins, for what seemed to them good and sufficient reasons, had taken a step which, as it was natural to expect, would hardly find favor in the land of beautiful Queen Elena. The National Assembly of November, 1918, had voted unanimously in favor of "the deposition of King Nicholas I., Petrovitch Niegosh, and of all his dynasty." The King, who was accused of having betrayed his country to the Austrians, of having called off his troops from the impregnable post of Lovchen, and of having demobilized them when he might have allowed them to join the Serbian army in its glorious retreat, was then living in or near Paris, where he vainly endeavored to enlist the Peace Conference in his favor. He was not without adherents, but these were far from numerous, and for the most part were living on foreign soil—in France, in Italy, or elsewhere. Of the few who remained in Montenegro, some organized themselves into small bands known as *comitaji*. Establishing themselves in out-of-the-way

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mountain retreats, they would occasionally sally forth to attack small bodies of soldiery or to burn the homes of their political opponents. Other *comitaji* were mere adventurers, who had taken to a life of brigandage, not because of political convictions, but because it was more to their liking than the work of cultivating the fields or of herding sheep and goats. None of these men could have kept up their lawlessness if they had not received support from outside the country, and it was commonly believed that they were largely equipped and financed through the Italian garrisons, which in such an unwelcome way had planted themselves on these eastern shores.

Meanwhile alarming reports were spread abroad as to the internal conditions of Montenegro. Accounts of the *comitaji* warfare were grossly exaggerated, and efforts were made to prove that Montenegrin civilians were the victims of savage atrocities committed by Serbian troops. Americans sojourning in Montenegro heard these stories, not in Montenegro itself, but only when visiting Italy or France, and thus could hardly avoid the conclusion that they were the fruit of an active propaganda against the Jugo-Slav administration.

The cause of Jugo-Slav union has never met with favor on the far side of the Adriatic, and it need not surprise us to learn that more than once expeditions for the invasion of Montenegro have been planned and outfitted upon Italian soil. Thus in January, 1919, an unsuccessful attempt of this sort was made from Italy by M. Plamenac, the former Prime Minister of King Nicholas, and in July of the same year another invading force set forth from an Italian port, only to be scattered on its landing at Cattaro. Even today the Treaty of Rapallo meets with much opposition in Italy, largely because it recognizes Montenegro's incorporation into Jugo-Slavia. Queen Elena, naturally, as the daughter of Nicholas, is strongly opposed to this abandonment of her father's claims.

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People who live far from the country itself and know little of the sentiments entertained by the citizens themselves, can easily entertain very incorrect ideas about public opinion in Montenegro. Mr. Ronald McNeill, writing in the January number of the *Nineteenth Century,* has said some foolish things about the "Martyrdom of Montenegro." However much, for sentimental reasons, we may regret the passing of an independent Montenegro and a picturesque dynasty, we ought to recognize the plain fact that the Montenegrin people want to be incorporated into the Jugo-Slav confederation, that they glory in the reunion of the Serbian race, and that they disowned their former king, not merely because of the part he played in the Great War, but mainly because he was not true to their great national ideal—the ideal of reunion which has been cherished by the race ever since the bloody day of Kossovo, in 1389.

The personal ambition of Nicholas made him a separatist. In other days, when he was but a prince and not a king, he was himself in favor of union between Montenegro and Serbia. In 1866 he made an agreement with Prince Michael, according to which he was to abdicate in favor of the latter, who in turn was to transfer his hereditary rights to Nicholas in the event that he himself should have no direct descendants. Even at this date, we may be sure, Nicholas would have favored the union if the Serbian crown were offered to his own, the Petrovitch, dynasty. Yet his former subjects, who for the last two years have celebrated with enthusiasm the birthday of Peter, of the Black George dynasty, do not forget that the actual regent, the Crown Prince Alexander, who in all probability will shortly succeed to the crown of Jugo-Slavia, is a grandson of Nicholas himself. It is worth while to note that when, on November 28 last, the general elections were again held in Montenegro, not one partisan of King Nicholas was elected for the Constituent Assembly of Jugo-Slavia. The question of his

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return to the throne had been settled by the people once and for all.

The climax of Italian misconduct in the Adriatic territory was reached when D'Annunzio seized Fiume or Rieka (as it is known in Croatian). This ancient port-town, which even the Emperor Augustus had not brought within the confines of Italy when he extended her borders so as to embrace the Istrian peninsula, was not included in the territory to be assigned to Italy under the Pact of London. But she was an important outlet upon the Adriatic, she had a large Italian element in her population, and, if Jugo-Slavia did not resist Italian aggression elsewhere, shė was even less likely to do so at this point. It is true that the Italian government never set the seal of public approval upon D'Annunzio's high-handed act. Yet throughout Italy the dictator won loud applause and there can be little question that he enjoyed the secret sympathy of Rome. Only thus can we account for the ease with which he waylaid ships from Italy and secured from them money and supplies that had been consigned to Italian troops elsewhere, and without which he could not possibly, for so long a time, have maintained his extraordinary position. This seizure of Fiume was bitterly resented throughout Jugo-Slavia, but again the government showed its power of control, its wisdom, and its moderation in not yielding to popular clamor, however reasonable and legitimate. Belgrade, indeed, has from first to last taken the position that she wants no territory to which she can not establish a claim, and she has been perfectly content to rely upon the Council of the Allies, which she knew was in possession of all the facts, and before which the most impartial member, the President of the United States, had been a strong advocate of her cause.

President Wilson had made a careful study of the whole Adriatic problem from both the Italian and the Jugo-Slav points of view. His decision was based on a

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mass of evidence secured by technical experts, which might be classified as geographical, historical, ethnical, and economic. Like most Americans he entertained a deep affection for Italy; but he saw that her arrogant and aggressive attitude toward her neighbors across the narrow sea, if unchecked, and strengthened by territorial accessions which could be defended only by force of arms, not by force of reason, would lead to endless trouble and ultimate disaster. Therefore, as a friend of Italy, rather than as an advocate of Jugo-Slavia's cause, he drew the so-called Wilson line, by which action he brought down upon his head such a torrent of abuse as few statesmen of any age have encountered. Wilson, so lately the idol of Rome and Italy, was transformed over night into a fiend incarnate, a devil with smiling face, and cartoons, placarded over the walls of Bari and other provincial towns, presented him under a German helmet, a soldier fighting for the enemy's cause.

Yet, in accepting the Treaty of Rapallo, the Italian government practically acquiesces in the President's main contention, namely, that Dalmatia belongs essentially to Jugo-Slavia. Later historians will, I believe, affirm that our President was absolutely right, for if the Treaty of Rapallo fails to keep the peace between Italy and Jugo-Slavia, it will be, not because Italy has not acquired all that she had a right to expect, but because Jugo-Slavia has waived some of her legitimate claims.

From north to south, Croatia and Dalmatia are Slavic, not Italian, in population; and this is true, not merely of the hinterland, but also of the coast itself. Fiume doubtless has a slight Italian majority, but even here, if one includes in the reckoning her suburbs or any of the immediately adjacent country, the majority passes to Jugo-Slavia. The farther south one goes, the smaller becomes the Italian element. Even in Zara, the ancient capital of Dalmatia, which under the treaty has been given to Italy, if one wanders through the town and talks

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to the citizens, he soon discovers that however freely the shops and houses of the town are placarded with brave legends, "O Italia o Morte," or "O Dalmazia o Morte," together with quotations from D'Annunzio's fiery speeches, yet the Slavs predominate in the district as a whole. Apart from soldiers, marines, and officials, the Italian element even in the city's streets does not seem very large, and it dwindles more and more as we pass southward to the towns of Sebenico, Traù, Spalato, Metkovich, Ragusa, Castelnuovo, and Cattaro, until in the places last named it reaches the vanishing point. True, most of these cities have a charming Italian aspect, and in all of them one may use the beautiful Italian speech; but let us remember that Spanish architecture does not make California Spanish, nor does the soft southern tongue of which one hears so much in Los Angeles take from that city its ultra-American character. Venice has left her mark on many a Dalmatian site, as she has left it in distant Crete and Rhodes, and as for the musical Italian language, that will always, we hope, remain the medium of commercial intercourse between the peoples on either side of the Adriatic Sea.

And, let us hope, a medium of cultural intercourse as well. A few months ago the writer was one of a party taken to see the interesting old Romanesque cathedral of S. Trifone, at Cattaro. It happened to be an hour when high mass was being celebrated in honor of the city's patron saint, and in this connection the visitors learned two facts of peculiar significance—one that the Old Slavonic tongue was used in the liturgy, and the other that the venerable Bishop who officiated had translated Dante's *Divina Commedia* into the Serbian language. Italy will never vanquish Jugo-Slavia by force of arms, but she may easily win a way to her heart through the power of her painting and her sculpture, her architecture and her literature. Today the coast cities of Dalmatia, delightfully Italian as they often are in

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general appearance, owe but little to contemporary Italy. They are indebted mainly to the medieval Queen of the Adriatic, the Most Serene Republic, which in the days of her glory and grandeur provided models for *duomo* and *loggia,* for *campanile, casa,* and *cortile;* and they owe much to the great empire of Rome, some of whose stately ruins, such as those at Spalato, have exerted an enormous influence upon the civil and ecclesiastical architecture of all Dalmatia.

As is well known, Jugo-Slavia's claim to Fiume has been based mainly on geographical or rather physiographical conditions. Along the Adriatic coast there is an easy and natural approach from the interior of Jugo-Slavia to the sea at only two points—on the south, by the valley of the Drin, and on the north, over the low Croatian mountain-background, which separates the Save from the Gulf of Quarnero. But the Drin would lead rail or road into Albania, a country very sensitive on questions of territorial integrity. As to the Quarnero district, however, the war had wrested that from the clutch of Hungary, and no one doubted that, as it was a Slavic land, it would be incorporated in the new Slavic kingdom. The value of the acquisition, however, has been enormously curtailed by the loss of its only available port, due to D'Annunzio's outrageous *coup de main.*

The divorce of Zara from the land of which it has been the capital for centuries, though far less serious to Jugo-Slavia than the loss of Fiume, is due to the Pact of London, to which Italy forced the allies to subscribe in those dark days of April, 1915, when the fate of Europe was trembling in the balance. Surely no participant can take pride in the signing of that bargain, least of all Italy.

And yet, after all the weariness of the years of war and strife, so strong on both sides of the Adriatic is the yearning of the people for the blessings of peace, that the compromise reached in the Treaty of Rapallo may

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after all prove a sound and workable compact. Much will depend upon the successful operation of the new federal and truly representative government in Belgrade, and upon the peaceful development of the kingdom's resources. If sufficient capital can be found to construct the standard-gauge railway lines which the American Technical Mission has planned for the linking of the interior of Serbia with the coast, through Montenegro, Bosnia, and Dalmatia, the new kingdom may easily afford to overlook the loss of Fiume and Zara, while Italy may well develop such a vast commerce with her new neighbor across the sea that she will no longer yearn for the acquisition of a foreign coast, which, far from promoting commercial intercourse with the interior, would serve as a fresh barrier in its restraint, and would involve an enormous and continuous expenditure of money in works of fortification and defense.

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THE PLACE OF THE CRITIC

STEPHEN C. PEPPER

There is the public that wants beautiful things to enjoy. And as social demand invariably breeds a supply, there appear artists who produce beautiful works to be enjoyed. Here are the two poles of economic fact—supply and demand. The artists furnish the supply, the public creates the demand. In artist and public the economic situation is complete. Where, then, is the place for the critic?

When the public wants bread, the farmer appears to furnish the wheat, and between the farmer and the public there are many middlemen—the wheat merchant, the flour manufacturer, the grocer, the baker, intervening links in the chain of distribution. But the critic corresponds to none of these. He is not a necessary link between the artist and the public. For what in art correspond to the merchant, the manufacturer, and the grocer, are the publisher and the dealer. Yet the critic is not totally aloof from economic forces. He is paid for his services, a fact that shows he is supplying some demand. Now, what is this demand, a demand that does not find its satisfaction in the artist, and yet is intimately connected with the production of art? Why do we have critics, and what is their function?

I realize that artist and critic and public would all vehemently object to being compared with farmers and

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grocers and bakers. The artist is expressing himself, the public is enjoying itself, and the critic is fulfilling a social obligation. I know that perfectly well, and admit the objection is well grounded. Nevertheless, I also know that artists occasionally sell, that the public buys, and that critics receive pecuniary remunerations. And though all this exchange of money is a purely economic fact and consequently exactly opposite in nature to the aesthetic fact accompanying it, still the economic fact may serve as a clue to the aesthetic fact just because the one does accompany the other. If we knew nothing about the nature of artists, we might do worse than study their economic status, find out what they sold, for how much, and to whom. Now, we do happen to be greatly puzzled as to the nature of critics, and therefore I propose to examine, as a first clue, their economic status.

Let us take as our example for the present the most common species of the genus, the newspaper critic. Why are there newspaper critics? A newspaper is an economic institution run on purely business principles—run, that is, for the money in it. Its success depends on its ability to get money out of people, and that in turn depends on its ability to supply what people want and are willing to pay for. People want the news and will pay for it, so there is a news section. People want to hear opinions about the news, so there is an editorial section. Men want to know about the sports, so there is a sporting section. Women want to know about the styles, so there is a fashion section. Society wants to know about itself, so there is a society section. But who is it that wants to know about art, so that it pays a newspaper to have an art section, with a staff of art critics?

It is striking that the newspapers with the finest art sections are published in the busiest centers of art exchange. I say centers of art exchange, not art centers,

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designedly. It is in the centers where art is bought and sold that we find the newspapers with the largest and finest art sections; in the centers where are the most publishers and sales houses, galleries, concert halls, and theaters; centers like New York, Philadelphia, Boston, and Chicago. Places where art is produced but where little art is exchanged do not have remarkable art sections in their newspapers. I am thinking of places like Provincetown and Gloucester, in Massachusetts. There is a great deal of very able art produced in these towns, but nearly all of it comes for sale before the public in Boston and New York, and is criticized in the Boston and New York papers. It is not centers of art production that make it profitable for newspapers to have art critics, but centers of art exchange. This is an important point, for it shows that the function of the newspaper critic is bound up with the selling of works of art.

Now why do people want art criticism? I suppose it is safe to say that more money is spent in the city of New York in one year on vegetables than on works of art, yet I have never heard of a vegetable critic. It is not the process of exchange itself that brings critics into existence, but only certain kinds of exchange. Are there any other examples of exchange that bring critics into existence? Yes, the buying and selling of clothes. Newspapers have fashion sections which perform a function somewhat similar to the art sections. They are less serious, more impersonal, and—perhaps!—more dictatorial, but they are bred from a similar situation, a situation in which it is felt that there is some standard superior to the vagaries of individual taste.

Here is the key to the problem. When people buy vegetables, they wish merely to satisfy their hunger, and they buy what pleases them. But when people buy clothes, they want not only to be clothed but to be clothed correctly. They want two things. They want clothes,

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and they want knowledge of what is the right thing in clothes. These two wants are satisfied from two different sources. The dressmaker furnishes the clothes, but the newspaper (including, of course, publications like *Vogue*) furnishes the knowledge of what is the right thing.

The situation is even more complicated than this. For the entrance of a standard affects not only the buying public but the dressmaker who wants to sell. When the farmer puts his vegetables on the market, all he need think of is the tastes of the public. But the dressmaker must think not only of the tastes of her public but of the standard; for however much people may like her dresses, she will not be able to sell them unless they are in style. So, the dressmakers are as much interested in fashion sections of the newspapers as the purchasing public. We have thus a curiously involved three-cornered relationship of buyer, dressmaker, and fashion section of the newspaper, with the fashion section in the position of keystone. For the buyer will not buy unless the fashions permit, and the dressmaker cannot sell unless the fashions permit, and yet the concrete relation supporting the whole situation is that somebody wants to buy a dress which somebody else wants to sell. The buyer wants to buy, and the dressmaker wants to sell. Then why don't they come to terms? Because the buyer has grown to distrust her taste. She has lost confidence in her judgment and seeks the support of authority, and thus a new want is created for the newspapers to supply. Furthermore, the buyer's loss of confidence is immediately reflected to the dressmaker, who also loses confidence and also wants the support of authority. Thus the fashion section of the newspaper appeals to two classes of people, to the buying public and to the dressmakers. And the simple, two-ended relationship of buyer and seller becomes, through the entrance of a standard and the need of authority, a complicated three-cornered relationship of buyer, seller, and authority.

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This same situation is duplicated in art and in it we find the reason for the existence of an art section corresponding to the fashion section in newspapers. In art we discover the same loss of confidence on the part of buyers, the same appeal to an authority, creating a new demand which is satisfied by the newspapers in the same way; that demand being reflected as before to the producers, and thus bringing about a similar three-cornered relationship in substitution for the normal two-ended relationship of buyer and seller. The crux of the situation is that the individual buyer and seller no longer trust their own taste, but recognize the existence of a standard which each wishes should be applied before he risks acting on his own judgment. He does not wish to buy a picture unless he is sure it is aesthetically right, any more than a woman wishes to buy a dress unless she is sure it is in style.

Of course, I have oversimplified the situation. The dignity of art, and its prestige, bring in a number of complicating elements which appear only in slight degree in dressmaking. They bring in a good deal of hypocrisy. There is a sort of mystical theory of good taste that has permeated society. Every man or woman, and especially every gentleman or lady, is supposed to be born with an unerring sense of what is right and wrong in art. To confess doubts about art in polite society is like confessing doubts as to one's table manners. Two gentlemen conversing about art always assume that each other's aesthetic judgment is final and certain. They show their dependence upon critics only by their copious contempt of them. Even when buying a work of art the same pretense is maintained. A prospective buyer goes to an artist's exhibition and examines the pictures as if their direct appeal were the only consideration of weight. The artist politely assumes the same attitude. But on a table in a corner of the gallery will perhaps be found a number of clippings from

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newspapers pasted on cardboard. These are read, it is understood, only from curiosity to find out the critic's opinion, which, of course, is of no importance.

Moreover, in art the emphasis is moved from the actual buying and selling to opinions about what ought to be bought and sold. There are two reasons, one the exact opposite of the other, for this shift of emphasis. Works of art are either too expensive or too cheap to make the actual purchase of them a very important factor. Buildings, statues, and paintings are too expensive for the ordinary public, so that people pass judgment on them not for the purpose of buying them but to decide whether they ought to be bought by anybody; but books, theater tickets, and concert tickets are so cheap that people buy them any way and decide afterwards whether they ought to have been bought. In both cases, the critical judgment becomes separated from the economic conditions, and lives an isolated life.

And critical judgment thrives vigorously in its isolated life, because of two additional causes. One of these is the natural love of judging among competitors. Who is the greatest poet in the world? Who is the greatest poet in America? Who is the greatest poet in California? These are the sort of questions on which every young lover of poetry, and some old, have wasted many precious hours, and the social concretion of these absurd discussions is the institution in various parts of the world of "poet laureateships." Prizes and medals are absurdities of the same sort especially when offered in open competition. For these questions are of a very different kind from such questions as, Who are the good poets? or, Is so and so a good poet? The first kind of question is prompted by the spirit of competition (the same spirit that makes us discuss which is the champion football team of America); the second kind of question is prompted by the spirit of aesthetic curiosity. Questions of this latter kind are rarely discussed outside of

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scientific circles. But questions of the former kind, fanned by the competitive spirit, have much to do in keeping critical judgment on works of art alive among the people.

The second additional cause that keeps the critical judgment alive is social prestige. As I have pointed out already, every gentleman is supposed to know something about art—indeed, not only something but everything. After the latest town scandal has been discussed at the tea table, and the most recent sensations of science and philosophy (Freud and Einstein and New Thought), the next topic to come up is art, and woe to the man who calls himself a gentleman, or the woman who considers herself a lady, if he or she have not some opinion about Rodin, and the *Four Horsemen of the Apocalypse.* It is easy to become cynical over this phase of art; but rightly viewed it is one of the most promising and hopeful signs that society exhibits, for it shows—in a queer way to be sure, but still it shows—that at bottom society believes the most valuable things in the world are science and art. And this belief, strangely exhibiting itself in a stilted prestige, is the second additional cause that gives vitality to the critical judgment.

Now we can understand why there is an art section in the newspapers handled by an expensive staff of art critics. The art section supplies a powerful demand that has its origin negatively in the public's loss of confidence in its aesthetic judgment and positively in the public's desire to know what its aesthetic judgment ought to be. This desire is founded upon several interweaving and dimly discernible motives; but, ultimately, it is for authority in matters of art, and that authority is furnished by the critic. We see then at once what is the critic's function. It is to be an authority for the public regarding good taste, an expert on good taste.

But our problem is by no means solved. We see what the critic's function is; but how is he to execute it? It

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is all very well for the public to find its authority in the critic, but where does the critic obtain his authority to judge for the public? It is a standard that is wanted. The individuals composing the public have lost confidence in their personal likes and dislikes and seek the judgment of the critic in the belief that he must have access to the standard. But the judgments of critics differ, and that fact gives a new angle to our problem. For a critic should not only be an authority but a true authority; or, rather—for the distinction is ridiculous and tautologous—a critic is of course an authority and an authority is of course a true authority. A critic who is not a true authority is an impostor. But the fact remains that the judgments of critics differ.

Here arises a new problem on a higher level leading to a new study, the criticism of criticism, which would not be a bad definition of aesthetics. For one of the principal problems of aesthetics is to find the standard of art, or, if there are many standards, to find their origins and to learn the laws governing their appearance and growth. Accordingly, the critic stands in a position midway between the aesthetician and the public, and his function is two-sided. On the one side, he faces the public and gives his opinion as an authority on works of art; on the other side, he should face the scientist, the aesthetician, and obtain from him the standards by means of which alone he can conscientiously act as an authority for the public.

Now the question arises as to whether there is such a thing as a science of aesthetics to which critics may turn for information, and, if there is not, whether there can be. In answer to the first part of the question I think we must say in all frankness that there is no such science. There is a great deal of written matter that goes by the name of aesthetics, but very little of it can be called scientific in anything approaching the modern significance of the term. It is not built up from the

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observation of facts, but droops down, a luxuriant, bloated, parasitic growth from the boughs of metaphysics, full of logical subtleties and cosmic issues, a tangle which only a metaphysician can examine intelligently. It has not arisen out of practical problems, nor out of the love of art and of pure curiosity to understand the principles that underlie art just for the sake of understanding them. It has arisen out of the metaphysical problem of finding an adequate explanation of the whole universe, which involved the subsidiary problem of finding where, in the rounded system, the anomalous mass of experience called art should come.

I do not mean to disparage philosophical aesthetics. As a metaphysical study, it will long be of interest and value, just as the metaphysics of the self is still needed even though we have a fairly well established science of psychology. Furthermore, I am convinced that, if a true science of aesthetics is born, it will be thrust into existence by philosophers rather than by artists, critics, or scientists of sciences now established. For metaphysics is the womb of the sciences; physics and chemistry, economics and psychology, have all come from philosophy, so that it is hardly rash to prophesy that the science of aesthetics (if there ever is to be one) will also come out of philosophy. I am saying only that a science of aesthetics does not at present exist.

Then can it exist? There are many who think it cannot, who believe that a science of art is a self-contradiction. For a science implies laws—or to put it more harshly, rules—but art is free. There may be laws for facts, but there are no laws for inspiration or for the charms of beauty. Strangely enough, in spite of the dependence of the general public upon critics, this sort of aesthetic pessimism is most fashionable. It is a view that fits in very prettily with the theory of the infallibility of gentlemen's taste and is part of the polite hypocrisy of society regarding all things artistic. It is

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easy to understand how artists would be pleased with this view, since for them rules and laws and standards have generally proved chafing restrictions. The surprising thing is that, even among critics, it should find strong adherents. With them, however, it is the voice of despair, a despair to give us infinite hope, for it is the cry of the conscientious critic, who has become aware of the double-sidedness of his function, who has seen that it is his duty not only to give an opinion but to give the right opinion, who has sought for the standard by which to judge the right, has failed to find it, and makes a clean confession, saying that his judgment is his individual opinion only, *his* feelings in the presence of the work of art. So Spingarn, referring to Anatole France, tells us that criticism is "a sensitive soul detailing his 'adventures among masterpieces,'" and the replacing of "one work of art by another," and he enumerates the standards critics have used in the past, the rules and conventions and techniques, genres and divisions, and the references to morality and history and race and the law of evolution, and he says "we have done with them all"; in the future, to criticize is to "re-dream the poet's dream." He casts off his priest's robes and steps down from the altar, and says "I am no nearer God than any man," and he shouts back at the other priests to come down and do as he has done.

We cannot help admiring Spingarn and his revolt against an intolerable situation. For here is the critic suspended between the public and a science that does not exist. There are but two things he can do. One is to throw up a scaffolding of pretense or self-deception in place of the science that does not exist; the other is to let himself drop, as Spingarn has done, to the level of the people. But if he lets himself drop, he ceases to be a critic. Spingarn may call his revolt "new criticism" if he pleases, but in reality it is no criticism at all. For criticism comes into existence, as we have seen, from

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public doubt, from the public's loss of confidence in matters of taste, and the function of criticism on its side toward the public is to resolve that doubt by certainty. Criticism is the obverse of doubt, which is equivalent to saying that it must be certain. Therefore, when a critic confesses doubt, or when he convinces the public that their doubt is as good as any critic's certainty, from that moment the function of the critic ceases. To state the situation in cruel simplicity (a knife-edge simplicity that is never quite true), a critic today must be either a charlatan or nobody.

The only salvation for honest criticism is the establishment of a true science of aesthetics. Therefore much depends on the answer to our question, Can there be a science of aesthetics? For my own part I see no reason whatever why there cannot be. Opponents of science diligently search out dusty niches and unopened closets of experience, triumphantly showing that here are corners the broom of science has never swept, and implying that for some reason of inaccessibility no brooms of science will ever have handles long enough to reach. But science stopped using brooms some time ago; it now uses vacuum cleaners. One after another the dusty corners have been cleaned out and aired, and there remain only two or three closets still hung in cobwebs. One of these is the closet of values. For over a century the opponents of science have found consolation in the darkness of this closet. But the door has already been thrown open. There now exists a well established science of economics, actually a science of value conducted like other sciences by a body of trained men coöperating with a common technique of observation, classification, and analysis that brings veritable results. And now the cry is, not that all values are inaccessible to science (for of course the carnal economic values which are measurable in coin are capable of scientific treatment), but only that the spiritual values are inaccessible, the religious, moral, and aesthetic values.

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I have faith enough in science to believe that even these will be scientifically treated some day. For if I read the history of science aright, the secret for bringing masses of recalcitrant experience under the discipline of scientific method is the discovery of some fruitful organizing principle, a penetrating unit of classification or a wide embracing law. Think how chemistry has developed since the determination of the atom as the unit of matter; how biology has leaped forward by bounds since the discovery of the organic cell as the unit of life; how psychology came to birth as a science when it began to use the sensation as the unit of consciousness, and how it is making a new spurt today with the use of the reflex arc as a new unit. If we could only find such a fruitful unit for aesthetics, the science would be born, and important regularities and laws would spring up like mushrooms.

Attempts have been made in aesthetics, I know. Mathematical relations have been employed but only with tantalizing results. There are some men today experimenting with instinct, but that has been abandoned as a unit even in psychology. Imitation, suggestion, and the latest child of this wriggling progeny, empathy, have been tried, but not, I feel, with great promise. The fruitful unit for aesthetics is still to be found; yet until it is found all work among the arts will be fragmentary, groping, and uncertain. Even historical work will be of doubtful value, doubtful in almost direct proportion to its minuteness, for history is far more than the recording of bare facts, dates, and circumstances; it is the recording of some of these in the interests of a governing purpose. And the value of the history will depend on the value of the purpose that governs it. If the purpose is trivial and capricious, so will be the history—so has been the family gossip of kings and prime ministers that until recently has gone by the name of history. The recent birth of genuine social sciences—economics, political

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science, and sociology—has suddenly made it evident that social history will have to be rewritten from the bottom up. Details of wars and intrigues tickle our love of romance, but they are so much trash in the eyes of the scientist hunting for social laws. Even the history of art, therefore, cannot be worked out with the assurance that the results will be of lasting value until first a science of aesthetics has been established to give the history a governing purpose. All knowledge of art waits for this science of aesthetics, and the science of aesthetics waits for a fruitful analytical unit. Yet all we can do, we who are interested in knowing about art, is to try this, and try that, and try the other concept in the hope, and in the firm belief, that sooner or later we shall hit upon a unit whose discovery will be rich in results. All other work on art, unless it is ancillary to sciences already established, such as philology, anthropology, psychology, or economics, is almost surely wasted.

In the meantime, what of the critic? If there were an established aesthetics, his function would be easy to define. The established aesthetics would be a pure science like psychology, a science that is developed for its own sake under the impulse of intellectual curiosity; criticism would be an applied science like education utilizing the principles of the pure science for a practical application. As education is to psychology, engineering to physics, medicine to physiology, criticism would be to aesthetics. Critics would learn the principles of art from aesthetics, would apply these principles to particular works of art upon which judgment was desired, and would publish the results for the benefit of the public. Under these conditions the judgment of a critic on a work of art would be of exactly the same order as a doctor's diagnosis of a case.

But as these conditions do not exist, what can the critic of today do? We passed harsh judgment on him a moment ago. We said he must be either a charlatan

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or nobody. But there is one escape from this dilemma: he may be conceited. If he can convince himself and others that his personal opinion is better than that of most persons, not because he knows the principles of art (nobody knows them), but merely because his taste is more sensitive, then he can still conscientiously be a critic today. He founds his judgment not on an impersonal standard, but on his innate superiority. Even Spingarn must qualify the souls that detail their "adventures among masterpieces." Only the "sensitive" souls have that privilege. The dull souls must stand aloof and listen. The one justification for the critic of today is his self-conceit.

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REALIZATION

A. C. L.

Night fades. The breath of morning stirs the waste.
  The shivering shrubs take on their pallid hue.
The lonely yucca stands like sentinel placed,
  To warn unwary pilgrims of their rue.

From out the gloom uncouth the mountain creeps
  And stabs the eastern sky. The crimson flood
Pours through the pass and o'er the valley leaps,
  And lo! The western crests are drenched with blood.

Vast shadows stretch beneath the widening glare;
  The paling glow spreads down the farther slope;
An evanescent fragrance scents the air,
  And silence broods the universal hope.

  Then shades and colors all are quenched in haze;
  The Sun is up! The desert day 's ablaze.

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A FRENCH FRIEND AND INSPIRER OF EMERSON

RÉGIS MICHAUD

In the winter of 1827, Ralph Waldo Emerson, broken in health and, partly, in spirits, emigrated to Florida. Having been approved, the year before, to preach as a Unitarian minister, he was resorting to Saint Augustine for mental and physical relaxation. In the early days of April, 1827, he wrote from Charleston to his brother William the following letter:

My dear brother, I arrived here yesterday after a direful passage of nine days from Saint Augustine. The ordinary one is one or two days. We were becalmed, tempest-tossed, and at last well nigh starved, but the beloved brother bore it not only with equanimity, but pleasure, for my kind genius had sent me for my ship-mate, Achille Murat, the eldest son of the old King Joachim. He is now a planter at Tallahassee and at this time on his way to visit his uncle (Joseph Bonaparte) at Bordentown. He is a scholar, a man of the world; very skeptical, but very candid, and an ardent lover of truth. I blessed my stars for my fine companion and we talked incessantly. Much more of him when I shall see you.

A few days later Emerson notes in his *Journal:*

A new event is added to the quiet history of my life. I have connected myself by friendship to a man who, with as ardent a love of truth as that which animates me . . . . is, yet, that which I had ever supposed only a creature of the imagination—a consistent atheist—and a disbeliever in the existence, and, of course, in the immortality of the soul. My faith in these

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points is strong and, I trust, as I live, indestructible. Meantime I love and honour this intrepid doubter. His soul is noble, and his virtue, as the virtue of a Sadducee must always be, is sublime.

In a letter to his confidante, Mary Moody Emerson, Emerson reflects upon his journey. He will never be an enthusiastic traveler, as is well known from his books:

"Nevertheless, I shall not deny," writes he, "that" there are some who take such a strong hold of my attention that I am fain to quit my stoic fur, and fairly go out of my circle and shake hands and converse with them. Now I know, my kind Aunt, with her electrical imagination, will think I am talking of women. Alack-a-day! it surely is not so. . . . . No, I was speaking of *men,* and another time I will give you an account of one whom it was my good fortune to meet in East Florida, a man of splendid birth and proud advantages, but a humble disciple in the school of truth.

This first of Emerson's *representative men,* a fine type of the philosopher and the man of action, was the son of the unfortunate king of Naples, Joachim Murat, shot by his own subjects in 1815. After the murder of his father, young Achille had been taken to Frohsdorf, Austria, by his mother, Queen Caroline, Napoleon's sister. When he reached his majority, Achille Murat, "inspired with the love of freedom," sailed for the United States, and joined his uncle, Joseph Bonaparte. Murat settled near Tallahassee, Florida, as a planter. He became an American citizen and no one seems to have pronounced with greater pride than that member of the French imperial aristocracy, the *Civis americanus sum.* As a planter, a lawyer, a traveler, and a soldier, Murat's life was full of experiences and adventures. The love of liberty which took him to the new world recalled him to Europe, a few years after his meeting with Emerson, as a colonel in a regiment of Belgian lancers. The jealous fears of the Holy Alliance forced him to resign. He lived in England for a while, then came back to the United States, where the Seminoles brought him again

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to the warpath. In 1825, he greeted Lafayette in America, and through his friendship met a grandniece of Washington, whom he afterward married. He died in 1847, and was buried at Tallahassee.

Murat was one of the first, since the days of Saint John Crêvecoeur, the author of the *Letters of an American Farmer,* to relate his impressions of America for the French public. In 1828, the year after he met Emerson, he addressed to his friend Count Thibeaudeau, who thought of following Murat to this country, some *Lettres d'un citoyen des Etats-Unis à un de ses amis d'Europe.* This series of ten letters became in 1832 the *Esquisse morale et politique des Etats-Unis de l'Amérique du Nord.* The book was translated into English in 1849 by Henry J. Bradfield, a former officer under Murat in the regiment of Belgian lancers. It was dedicated to King Leopold, of Belgium, under the title *America and the Americans.*

An enthusiastic American citizen by adoption, by birth an aristocrat, by tradition a "philosophe," Murat is the worthy initiator of a long series of French writings on the United States from Tocqueville to Paul Bourget and after. His book is inscribed to Count Thibeaudeau. It begins with a clear-cut comparison of the European and American forms of government. Since the days of the Renaissance, Europe has been looking for a form of government similar to that which America offers. Europe has been misled into seeking a metaphysical notion of liberty, while liberty in the practical sense is found only in the United States. "At the present epoch, the American Union affords us the best model of Government." It is *self-government,* in which "all is rational, and open to the comprehension of the simplest mind. What alone surprises me," writes Murat, "is, that the nations of Europe are not governed by the same principles." Murat knows his subject; different from "superficial" travelers, he has lived nine years in this

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country, has married here, has traveled much and held official position. (Prince Murat acted even as a United States post-master and was proud of it.) To quote his own words: "I have become an American citizen by habit and in heart; and feel honored in bearing the title of citizen of the United States, as also in the proofs of esteem and attachment which I have everywhere experienced on the part of a people the most reasonable, and the least susceptible in the world of being dazzled and led away by appearances."

Murat's book on *America and the Americans* is a survey of American institutions, parties, religion, arts, letters, and manners. Though much less systematic and profound than Tocqueville, Murat is a keen psychologist and a very clever observer. He evidently misses the mark when he prophesies that the United States will be an agricultural and not an industrial nation, a prejudice natural to a Southern planter in those days. On the other hand, his chapters on the settlements in the West, and on pioneer life, are of great interest both for description and insight. Murat's United States are most concrete. He does not present them *in globo,* but keeps to each region its specific character. Here are his views of New England:

> The six states of New England are what the rest of the Union calls "Yankees," a term which the English very erroneously, and more from ignorance, apply to all Americans without distinction. . . . . The character of their people in general is remarkable, and distinct from every other on earth. The most gigantic enterprises daunt them not; argument as to the consequence disheartens them not, while they are characterized by a spirit truly *sui generis.* These men appear born for calculation from the uttermost cent and rising progressively up to millions, without losing one particle of exactitude and ordinary insight. They are eager to amass wealth and will frankly confess like Petit-Jean (in Racine's comedy of *The Pleaders*): "Que sans argent l'honneur n'est qu'une maladie." ("Without money honour is a disease.")

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To the emigrants from the Old World, Murat explains the spirit of the New. Let nobody come from Europe to America, to settle and succeed, unless he shows a real partiality for American institutions. If one can boast of having been, in the Old World, the victim of some persecution, so much the better for him. He will be at home in the States. To succeed there, one must be the *first* to offer something *new*. To this fine bit of a program for an up-to-date publicity agent, Prince Murat adds the following, wherein Emerson might well have found one capital article of his own declaration of independence: "There [in America] all depends on individual exertion and self-reliance." To modern sociologists, Murat offers his theory that every new community is an experiment along the whole line of social growth and evolution. Come to the New World, those who want to see how societies grow and are born! Chapters XI and XII seem already to take for granted the views of later day travelers concerning "American energy" and "*vie intense.*" Murat lays stress on what seems to him the very nerve and soul of life, individual, economic, and social in the United States: "Active, energetic, and persevering competition is the secret mainspring to our American system—fortune, power, love, and riches, all these treasures, are the rewards of the skilful and enterprising. . . . . The continual competition—this unceasing strife as it were, of all against all, creates an activity in the general intercourse of society, producing the most happy result."

The last pages of Murat's book are a short but suggestive attempt to give an interpretation of American art and literature. "Every one in America is more or less of a literary turn, for all received a good education." On the other hand, according to Murat, prejudices and the puritan restraint are too strong to allow art to grow. Liberty in politics ought to be duplicated by freedom in art, within the limits of "bienséances."

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Efforts are now making in all parts of the States for the protection of the arts. Each town, large or small, has a museum, chiefly of busts in plaster, and mere daubs, decorated with the names of the great masters. All these are useless. The sentiment belonging to the fine arts, without which genius is nothing, exists not, and can never exist, in the United States, so long as such prejudice of opinion and manners remains the same.

Do away with the illiberal impediments and prudish "false delicacy," and you remove the reproach that America is deficient in the fine arts.

There is a palpable contradiction between the efforts now making for the encouragement of the fine arts in America, and the austerity of public morals in our present [1832] social state; we have no artists generally speaking, nor can we have.

The following are the last lines of *America and the Americans:*

We are not the people of poetry but reason—our soil is more adapted to the cultivation of the sciences than of the arts; and we look forward to happiness rather than pleasure. Which is preferable of the two? To obtain perfection in both, our social system requires to be inoculated with a little of the *juste milieu.* We then approach perfection without the sacrifice of virtuous sentiment.

Such is the man Emerson met in 1827, in Saint Augustine, and whom he probably visited at Tallahassee. We understand now the fascination he exerted on Emerson during their "incessant talks." The field of Murat's curiosity was very wide. He did not forget in his book the chief topic of interest for Emerson at that time, i.e., religion. Murat had inherited from the French philosophers of the eighteenth century their dislike for "superstition." His views on the subject betray the *jacobin à la* Jefferson or *à la* Thomas Paine. Living in the United States for a score of years, however, had made Murat fairly tolerant. His chapter on Unitarianism, written the year following his meeting with Emerson, shows a fair appreciation of that liberal and rational creed. "Nothing can be more simple than its tenets. . . . . Their worship [of the Unitarians] is pure, elegant,

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and free from all sort of ceremony and superstition; they address themselves solely to the mind's reason. . . . . They have at their head a man of the rarest merit, and most exemplary virtue, a true Plato, Dr. Channing." Murat, in a letter to Emerson, will go so far as to invite him to come to settle in the South as an Unitarian missionary.

During those nine days "becalmed" and "tempest-tossed," from Saint Augustine to Charleston, Murat and Emerson discussed the religious problem. Though he still stood on orthodox grounds, Emerson's faith was none of the steadiest. Assailed by doubts, he tried to steer a middle course and, to quiet his growing revolts, he had recourse to a new method which he exposed to his Aunt Mary Moody: "Suppose we could lose our hold on the foundations of Christianity, would there be nothing satisfying in esteeming it also a great permitted engine of most exact and benign adaptation to the wants of many past ages, and so, yielding to an offensive aphorism, that what is absolutely false may be relatively true?" Against the growing claims of biblical, and especially German criticism, as against the skepticism of Hume and Gibbon, Emerson holds that, even deprived of historical or rational proofs, Christianity will do as a system of vital truths, or, as Ernest Renan had it, before the modernist theologians, that, while false concerning its object, religion may be true concerning the subject. "A humble disciple in the school of truth," Murat on this point met Emerson with his own challenge. He began by loosing on Emerson the heavy artillery of skeptical arguments, and the first encounter seemed to spell disaster for Emerson. The controversy lasted several months. In the fall of 1827 we see Emerson writing to Murat from Cambridge, and Murat's answer has been kept in Emerson's *Journals* with the original spelling. Murat writes from Bordentown, where he is visiting Joseph Bonaparte. He has been sick and unable

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to keep his promise to continue the religious discussion with Emerson. Besides, Murat's attitude has changed. His doctrine of truth is not one of unflinching and ready-made adhesion. "I must tell you candidly," writes Murat, "that the state of my mind has been altered since our meeting. Your system has acquired as much in proberbility as mine has lost in certainty, both seem to me now nearly equally proberable. I have accordingly only one test left—that of expediency." Reading the above by Murat, one recalls to mind the following by the chief sponsor of pragmatism: "The true," writes William James, "is only the expedient in the way of our thinking, just as the right is the only expedient in the way of our behaving." Really, "a new name for some old ways of thinking," is pragmatism. As "first a method, and second a genetic theory of what is meant by truth," the following of Murat still reads very much as an anticipation of William James. Murat believes that, if Emerson's views of religion may, "in barbarous time of obscurity and ignorance," "be more useful," the case is different "in a refined state of society." "A necessary preliminary, however, is to assertain how far we can have an *absolute* notion of truth. This is paramount to all subsequent indigations." Murat then announces that, as soon as he shall be home and feel better, he will write "a monography of truth" for which he has been collecting materials, and of which he has already spoken to Emerson.

This anticipation of the pragmatic method, in 1827, by Napoleon's nephew, the son of an ex-king of Naples, a colonel of Belgian lancers, and an American citizen by adoption, certainly deserves a special notice.

That Murat made a deep impression on Emerson is evident from the latter's *Journals*. Murat helped him to free himself from the shackles of dogmatism at the most critical period of his life. Bent upon reconciling sentiment and reason in a new definition of what true

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religion must be, outside of any formal creed, Emerson took lessons from Murat. In fact Emerson never forgot that "ardent lover of truth." As he will write in *Society and Solitude:* "If we recall the rare hours when we encountered the best persons, we there found ourselves and then, first, society seemed to exist. That was society, though in the transom of a brig, or on the Florida Keys." Achille Murat remained one of Emerson's representative men. He quotes him, along with Wordsworth, as a type of "heroic manners," and praises him for his "sweet tempered ability and a scientific estimate of popular opinion." Some ten years after their meeting, he still ranks Murat among "the scattered company who have ministered to his highest wants," "a strange class, plain and wise, whose charm is wonderful, how elevating! How far was their voice from the voice of vanity, of display, of interest, of tradition!" Those men have been to Emerson what the *Wanderer* was to Wordsworth in the *Excursion.* "They are the argument for the spiritual world, for their spirit is it. Nothing is impossible, since such communion has already been. Whilst we hear them speak, how frivolous are the distinctions of fortune, and the voice of fame is as unaffecting as the tinkle of the passing sleigh bell."

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LE PANACHE BLANC

Hilda Laura Norman

The sky is scattered with long white plumes.
  I wonder what heroes left them so?
Maybe the wind, or maybe the ghosts
  Of Henry the Fourth and Cyrano.

Slowly the plumes begin to move,
  Feathery light with the winds that blow,
Followed by soldiers of times gone past
  Of Henry the Fourth and Cyrano.

Off they ride in the spreading blue
  As they used to ride in the long ago,
Off to brave deeds behind the plumes
  Of Henry the Fourth and Cyrano.

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THE SIERRA NEVADA

ANDREW C. LAWSON

I

In the popular mind the Sierra Nevada is thought of as an aggregate. The term is not plural but the range is referred to as the mountains. The usage constrains the geologist to the same plural reference, but this is only an illustration of a rather common influence of popular usage upon scientific thought, for to him the Sierra Nevada constitutes a magnificent unit, one of the finest examples on the face of the globe of a single range, the type of its class. In order to appreciate this comprehensive point of view, we must begin by a discrimination of the forces of nature, which are engaged in the evolution of the geomorphic features of mountains in general, into two classes. These are on the one hand the formative or constructive forces, and on the other the degradational or destructive forces. All mountains are due primarily to the formative forces of upheaval or of accumulation or of both. Mountains of accumulation are such as have been built up by volcanic eruption about a vent or vents in the earth's crust, as in the case of Mt. Shasta or the volcanic range of Salvador and Guatemala. The Andes of South America owe their lofty character to the coöperation of the forces both of upheaval and of accumulation. For while the high peaks

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of the Andes are volcanic piles, yet these are sessile upon the summits of mountains due wholly to the upheaval of the earth's crust. Similarly, the Caucasus enjoys its reputation as the loftiest range in Europe from the fact that it consists of a volcanic pile, 8000 feet in height, perched upon the summit of a mountain 10,000 feet high due entirely to elevatory forces. Mountains which have originated solely by upheaval have not all the same general structure. The elevatory process has operated differently in different cases. The Black Hills of South Dakota constitute a mountain mass due to the simple doming of the earth's crust locally. The great sheets or strata of sedimentary rock, which underlie the surrounding plains in practically flat attitude, have there been so elevated that they dip away in all directions from the center of upheaval toward the unaffected region. The Uinta range is, in its essential features, a broad low arch, flanked on the sides by planes of rupture, as if the upward bulging of the earth's crust had exceeded the accommodation afforded by bending, and could only be further effected by dislocation and the bodily upward thrust of the long arched block lying between the flanking ruptures. In other mountains the single arch or dome is replaced by repeated folds, troughs, or synclines alternating with arches or anticlines, the axes of the folds being more or less parallel. In such mountains the folds may be fairly symmetrical, as in the case of the Jura, or they may be distinctly asymmetric, as in the case of the Appalachian Mountains. In either case we can not, on reflection, escape the conclusion that the upheaval which gave birth to the mountains was due to excessive lateral compression in the earth's crust and a consequent doubling up of its outer layers along a zone of weakness. In the Appalachian Mountains, where the folds are prevailingly asymmetric, the evidence of this lateral compression is particularly apparent, for there the folds are not only overtipped in a constant direction, but they

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are frequently torn asunder, and the overhanging limb of the fold is thrust over the recumbent limb.

In contrast to such mountains, where compressive stress in the earth's crust is the formative agency, we have mountain ranges of another type, which owe their existence to the rotation of long, narrow blocks of the earth's crust which have been dislocated one from another by parallel rupture planes. The elevated edge of such a tilted block becomes a mountain crest. On one side of the crest the slope is steep and corresponds to the rupture plane; on the other, the slope is gentle and corresponds to the general surface before it suffered disturbance. Mountains of this type are common in the region of the Great Basin, which lies between the Wasatch and the Sierra Nevada, and they are therefore referred to by geologists as of the Basin Range type. In the genesis of such ranges we detect no evidence of the operation of compressive stresses but rather the reverse, viz.: a distension of the crust. At least, the effects appeal to us as the result of unequal uplift, or of general uplift with unequal collapse accompanied by rotation.

Now, in none of the various types of mountains which we have thus passed briefly in review does the upbuilt or uplifted mass appear to us in the configuration due to the simple operation of the formative process. They have all been more or less affected by the operation of degradational forces. Under the general climatic conditions of our planet, whenever a mountain crest or peak has raised itself by any process whatsoever above the general level, it has thereby subjected itself to degradational attack, the intensity of which increases with the altitude and with the angular declivity of the elevated mass. Shasta is no longer a simple volcanic cone. Its slopes have been gullied and scored by the combined attack of the atmosphere, glaciers, and running water. The pile originally was not homogeneous. The combined forces of degradation have long since discovered

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this, and the incisions made upon it have followed lines of least resistance. The degradation is therefore proceeding irregularly and is more or less expressive of the heterogeneity of the pile.

In the volcanic range of Salvador and Guatemala we find, to be sure, the cones of living volcanoes which are perfect in their formative profiles, but elsewhere in the same range, where the volcanoes are dormant or extinct, and accumulation has ceased to make good the ravages of the atmosphere, these profiles have been modified in a degree proportional to the time that has elapsed since the formative process stopped.

In the Andes many of the vast cones which constitute the culminating peaks have profiles referable solely to formative processes, because the volcanoes are either active or only recently extinct; but the mountain mass, upon which these individual and more or less isolated volcanoes are perched, has had its character, as an upheaved belt of the earth's crust, greatly modified by degradational processes. Deep cañons cut far into the heart of the mountain and the sculpture of the mass has become more prominent than the simple outlines of the original block. The same is true of the Caucasus. Elbrûz, seated upon the broad upland of the range, has been in the formative stage until very recently and so retains the essential features due to the process of its upbuilding, while the Caucasus proper, *pari passu* with that upbuilding, has suffered severely from degradation. Great cañons trench the mountain ridge and subdivide what would otherwise have been a mass of simple outlines into an aggregate of plateaus, ridges, and peaks. The variety and complexity of forms due solely to sculpture bewilder the observer, absorb his attention, and usually preclude his recognition of the character of the primitive block from which such forms have been carved.

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The Black Hills have been referred to as originating by a simple local doming of the earth's outer crust. But the dome, for the greater part of its profile in all azimuths, has long since vanished. It has been removed by erosion. Out of the original dome there has been evolved an oval shaped area of hilly country girdled more or less continuously by inward facing escarpments. In the popular mind the area is occupied by an intricate group of unrelated hills, as the name implies. To the geologist these hills are but the residuals of a mountain unit of a very simple type; and in systematic orography the Black Hills are classified, not on the basis of the resulting degradational forms, which express but the details of the structure as revealed by erosion, but upon the basis of the primitive form, that of a dome—now almost destroyed. The great arch of the Uinta no longer exists. The highest peaks of the range fall far short of the altitude of the original arched surface. The vast rounded ridge has been pared down just as in the case of the Black Hills dome; and in the present topography we are dealing with the erosional residuals. But the geologist, from his studies of the structure revealed in these residuals, restores and mentally reconstructs the simple arch due to formative upheaval, and upon that basis recognizes the unity of the apparently chaotic upland, classifies the mountain, and compares it with others.

Similarly the imposing ridges of the Jura and the Appalachians are not the crests of the original folds. They are the protruding edges of belts of hard rocks exposed in the course of the degradation of the mountains. These belts of hard rocks appear on the flanks of the folds and are separated by longitudinal erosional valleys which follow the parallel belts of soft rock. The character, disposition, extent, and multiplicity of these folds having been inferred from the study of the strata exposed in these ridges and valleys, that inference becomes as before the basis of the classification of the mountains.

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From the various cases cited it must be apparent that, while the degradational forms may be matters of primary interest to the physiographer, it is the general structure of the original block from which such forms have been carved that claims the attention of the geologist in his attempt to study mountains, to discriminate their chief types, and so make some advance toward solving the underlying problem of their genesis. It is the general structural plan which he seeks to decipher in all cases, and in this search he generally finds a unity to which the popular eye is blind. Except in the case of living or recently extinct volcanoes he has usually to deal with the ruins of mountains. And, just as the archaeologist or architect works out the original plan of an ancient edifice from a study of its ruins, and classes it as belonging to this or the other style of architecture, so the geologist, from a consideration of the wreck of a mountain, is able to picture to himself the structure and configuration it would have possessed if unaffected by degradational forces, and thus determines to which of the various types of mountains it belongs.

II

Now, the Sierra Nevada is, in the sense just indicated, of the Basin Range type of mountains. It constitutes a vast block of the earth's crust, many times longer than broad, which has been rotated on an axis parallel with its length, so that the eastern edge, dislocated from the region of the present Great Basin, has been elevated to make the crest of the range, while the western edge has been depressed below sea-level and is buried by the deposits which underlie the floor of the Great Valley of California. This is a very simple conception of the general structure and configuration of what appeals to most mountaineers as a veritable "sea of mountains," as they view the Sierra from some of its

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commanding peaks. It substitutes unity for plurality, although we are still constrained to refer to the range in the plural. The unit in this case is large, even as mountains go, and the Sierra Nevada may be regarded as the largest as well as the finest example of simple tilted blocks of the Basin Range type, so far as our authentic information at present indicates.

The bewildering "sea of mountains" which one looks down upon from the peaks of the high Sierra are the result of the sculpture of this great block. The disintegrating action of the atmosphere, the stress of gravity, the transporting action of running water, the corrasive action of the load of rock débris as it moves forward in the streams, the corrading, sapping, and transporting action of glaciers—these have all conspired to carve out of the Sierran block the magnificent features which we designate, collectively, the mountains. Ever since the inauguration of its uplift, the mountain mass has been subject to the ceaseless attack of some or all of these degrading forces. They have evolved the profound cañons which dissect it and out through these cañons there has been swept probably half the original volume of the tilted block. We might picture to ourselves the original form of the block, in its simplest outline, by imagining these great cañons filled up to the level of the great ridges which divide them one from another. The picture thus formed, however, by the effort of the imagination, is not a true picture of the mountain at any stage of its evolution; it is rather an outline of the tilted block as it would be today had it never been affected by the degrading forces of erosion. But these forces have been at work since the very inception of the elevatory movement. This movement has been a slow and intermittent one, so that the dissection of the block and the general degradation of its surface have proceeded hand in hand with its gradual uplift. From these considerations it appears that the conception of the Sierra

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Nevada as a tilted block of the earth's crust of simple asymmetric profile, is one which has never been realized in fact. The abstraction which the geologist makes use of for the purpose of determining the type of mountain is confined to the result of the formative process and ignores the degradational process. But while we can thus think clearly of the one process independently of the other, in reality the product of the formative uplift has never for a moment been unmodified by the process which makes for obliteration. It is an interesting illustration of the subsurface idealism which pervades nearly all scientific thought.

It is interesting to note the control which has been exercised by the formative movement upon the directions along which the degradational forces have worked with maximum intensity. These directions are indicated by the drainage scheme of the range. By the rotation of the rising Sierran block its eastern edge became the crest of the range and the divide for the drainage. To the east of that edge there was a precipitous fault scarp and the streams on that side had a short run with very steep grade to the Great Basin. To the west of the same edge there was a long, comparatively gentle slope to the Great Valley, and the westward streams first began the downward corrasion of the present Sierran cañons by flowing across this slope. The drainage system of the ancient surface prior to the tilting was rearranged to conform to the now dominant slope. The new drainage which thus arose in consequence of the tilting of the surface of the block is known as a *consequent* drainage, and this consequent character of the streams of the Sierra Nevada persists to this day. The divide is still at the eastern brink of the tilted block and from it the streams, with one or two exceptions, which have special explanations, flow westerly, or directly across the axis of the block, scoring profound cañons through hard and soft rocks alike without significant deviation. In the sinking of

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these cañons, some streams had an advantage over others by reason of the larger volume of water, so that the downward corrasion proceeded faster, and the less powerful of the original consequent streams were forced to drain into these vigorous ones, thus becoming tributary to them and adding to their vigor. In this way the original number of trunk or through drainage lines has been greatly reduced; and in this way we may explain the ramifying character of the drainage lines about the upper stretches of the main streams. Other tributaries may be remnants of the streams that antedate the uplift. But, besides these tributaries of early origin, we might reasonably expect that others would arise on the slopes of the great cañons which would be in no sense consequent upon the uplift, but which would be *subsequent* to the corrasion of the cañons. Such streams do exist in the Sierra Nevada, but they are all short and insignificant. Even where they run on the belts of soft rock, where they might be expected in time to have cut through the great transverse ridges and have entrenched themselves in notable cañons following the general trend of the range, we find that but little work has been done. When we compare the Sierra Nevada in this respect with the Appalachians, which originated at a much earlier date in geological history, we find in the latter a very pronounced development of these subsequent streams. The cañons and valleys eroded in the belts of soft rocks, and so running parallel with the trend of the range, are the dominant features of Appalachian geomorphy; while the transverse streams are relatively insignificant, being few and short. The reason for this is that the subsequent streams, being once established in the belts of soft rock, have been able to cut down more rapidly than the transverse streams, which had to flow over hard and soft rocks alike. This enabled the subsequent streams to cut through the ridges separating the transverse valleys and to intercept or capture the waters of a higher

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transverse stream and drain them off to a lower. This process was repeated so often, that the transverse streams dwindled, the subsequent streams grew at their expense, and the longitudinal valleys became, as they are today, the prominent and impressive erosional features of the region. The full development of such a system of subsequent drainage is a characteristic of an old geomorphy. The courses of the streams have long since passed under the control of the underlying structure of the country, and they are fully adjusted to that structure. In contrast with this, the drainage of the Sierra Nevada is adjusted merely to the original slope of the surface of the range and is almost entirely independent of the underlying structure. The feebleness of the subsequent drainage and the dominance of the consequent cañons is a mark of geomorphic youth, and, although the range has been degraded to nearly one half its original volume, and although the corrasion of the vast cañons by the streams must have taken a very long period of time, measured in years or centuries, yet, from a comparative point of view, the Sierra Nevada may be safely placed among the young and giddy mountains of our planet.

This conclusion is confirmed by a consideration of the eastern front of the range overlooking the Great Basin. This, as has been stated, is a somewhat degraded fault scarp, originally the exposed side of the block along the plane of its dislocation from the country to the east. The scarp, under the disintegrating action of the atmosphere, has been undergoing a slow recession ever since its emergence. This disintegration is probably promoted by gravitational stresses within the mass, which find relief on uplift in the disruption of the rocky mass along systems of intersecting parting planes known as joints. The blocks bounded by these joints are readily dislodged by the heaving action of frost, and innumerable such blocks have been shed from the face of the fault scarp,

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thus effecting its gradual recession. Owing to the greater rapidity with which this process proceeds in the upper portion of the scarp, and the protection afforded to the lower portion by the accumulating talus of fragments that fall from above, the tendency is to reduce the original declivity to a more moderate slope. In a geological sense this degradation of the originally steep face of the scarp is a rapid process. Yet how little has it accomplished! To stand on the brink of Mt. Whitney, to view the great Sierran wall to the north, to the south, to gaze down into Owen's Valley over two miles below, to look out over the vast expanse of "the land of little rain" as from a balloon, to stand there is to drink in one of the most impressive lessons in American geology—and that lesson is the recency of the upheaval of the Sierran block. The great wall has suffered but little from the vigorous and incessant onslaught of the forces of degradation. It is still a wall. Even along those lines of maximum intensity of the erosive process, the stream courses, the results are small. The steep grade of these easterly streams suggests that they should in time have cut through the general line of the crest and thrown the divide far to the west of it. The erosive power of streams is a function of their grade, and it is a well established principle in geology that if the streams on two sides of a mountain ridge be of unequal grade the steeper will have the advantage, and, other things being equal, will cut their cañons back into the ridge faster than those flowing down the gentler slope, and thus bring about a gradual migration of the divide down the gentler slope till equilibrium be established. This migration of the divide between the east and the west flowing streams in the Sierra Nevada has made but little progress. This is due partly to the fact that other things are not equal. The supply of water, for example, from the snows of the crest region is much more abundant for the westerly streams than for the easterly. This compensates in a

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measure the difference in grade, but it could not preclude the steeper grade streams from eventually cutting through the crest and drawing their headwaters from the western slopes at the expense of the westerly streams. As a matter of fact this migration of the divide to the west of the crest has already been accomplished and it is only to the smallness of that migration, the slight approach which has as yet been made towards equilibrium, that attention is directed. The fact that the divide so nearly coincides with the brink of the range is an additional proof of the youthfulness of the Sierra Nevada.

III

The various approaches to the High Sierra from the Great Valley tend to follow the divides between the cañons of the westerly flowing streams. Many of these divides in the middle slopes of the range are by no means sharp ridges, but are flat or undulating surfaces of considerable breadth. If one stands on a commanding point upon one of these broad divides, where the outlook is unobscured by timber, he usually enjoys an astonishing sweep of view. He can look *down* the slope of the range into the Great Valley, and above the valley haze he can see the outlines of the Coast Range. He can look *up* the slope of the range and see in the distance the crisp profile of the snow flecked crest against a flawless sky. He can look far to the south and far to the north, and there is no ridge higher than that on which he stands to cut off his view. Ridge after ridge falls away in a broad perspective at nearly uniform levels. He loses sight of the intervening cañons and, if he have even a feeble imagination, the total effect is that of an expansive plain, a sloping plain, to be sure, and a not very even plain, but nevertheless a plain—the antithesis of a mountain landscape. If our observer knows that the intervening cañons between the great ridges are the products of

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stream erosion, he may, in spite of his feeble imagination, suppose for a moment that they have been filled up again flush with the tops of the ridges. If he succeed in this, and further suppose the distinct westerly slope of the range to be greatly subdued, he will have before his mind's eye the essential features of the region as they existed prior to its dislocation and tilting.

This ancient surface, as it was before the Sierra Nevada mountain block was evolved from it by upheaval, is known technically as a *peneplain,* a term introduced by Professor Davis, of Harvard, to designate erosional surfaces too uneven to be classed as true plains.

Now, this recognition of the former condition of the Sierra Nevada region as that of a peneplain leads to further interesting considerations. A peneplain of the extent of that with which we have here to deal, is the penultimate stage in a long continued degradation of the region by atmospheric and fluviatile erosion. At this stage the streams meandered in broad flood plains in relatively shallow valleys, separated by low, tortuous divides. The streams, long before this stage was reached, had ceased to cut downward and had established the lowest possible grade to the sea into which they discharged. It follows from this that the peneplain, which we have pictured to ourselves as occupying the Sierra Nevadan region prior to its uplift, lay at but small elevation above sea-level.

But a peneplain may, toward the headwaters of the streams which traverse it, pass into a hilly country; and there is reason to believe that, to the east of this peneplain, there was a mature, well rounded range of hills, having a maximum altitude of about 3000 feet above sea-level, which served as the divide for the waters draining across this peneplain to the Pacific. A part of the summit region of the Sierra Nevada includes remnants of this hilly range, but it is improbable that it paralleled the present crest line.

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It is to be noted, moreover, that, in the reduction of such a region to the peneplain condition, masses of exceptionally hard rock would be reduced more slowly than the rest of the region, and might be left standing upon the peneplain as rather prominent residuals after the rest of the region had become one of subdued relief. Such residuals are well known on the slope of the Sierra Nevada. Banner Hill, near Grass Valley, may be mentioned as a typical instance of this sort of feature.

IV

Now this peneplain standing at low level, with its meandering streams, its vague divides, its occasional residual hills and its distant well rounded range at the source of its streams, has been stated to be the penultimate stage in the degradation of the region. This means that the region had been above sea-level and subject to the attack of erosional forces for a long period of geological time. During this period a preëxisting mountain mass, totally distinct from the present Sierra Nevada except in general geographic location, had been almost entirely obliterated. The peneplain was but the abraded stump of this vast mass. In the stump we can read its structure and general history. Its mountain structure was of a very different type from that of the present Sierra Nevada. It had more the character of the Himalaya or the Alps, and its upheaval was accompanied by, if not caused by, the intrusion of a vast body of molten granite in its central part. It was, however, only a local manifestation of a general orogenic disturbance which affected the greater part of the Cordilleran region from the Wasatch westward. The rocks which were invaded by this body of molten rock welling up from unknown sources in the deeper portions of the earth's crust, were ordinary sedimentary and volcanic formations which had been accumulating over the region in nearly horizontal

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attitudes throughout Paleozoic and the early half of Mesozoic time; the invasion having occurred at the close of the Jurassic. This granite probably never appeared at the surface as such, but consolidated under a covering or roof of these sedimentary rocks. Portions of this covering of stratified rocks, in a flexed and closely appressed condition, sank deeply into the molten mass and are preserved to us in that relationship to the granite to this day. In other cases the contact surface, between the molten granite and the roof of stratified rocks, maintained a more nearly horizontal, or at least a simple undulatory, attitude. In the vicinity of their contact with the granite, the sedimentary rocks are profoundly altered from their original condition; yet in spite of this metamorphosis, they have yielded sufficient fossils to establish their geological age. The granite cuts across various stratigraphic horizons in the sedimentary series, but, in the hundreds of miles along which the contact has been traced, in a territory of many thousands of square miles, the basement or floor upon which the series as a whole once rested has nowhere been found. It has been displaced by the granite, whether by resorption in the hot magma or by sinking into its depths, is not yet known. In this phase of our study of the Sierra Nevada we are thus introduced to one of the most profound and most mysterious problems in geology, viz.: the genesis and behavior of granitic magmas in the earth's crust.

V

The granitic rocks and the stratified rocks into which they were intruded, in so far as these are left to us by erosion, constitute what is known as the Bedrock complex. Before the abraded stump of this complex was tilted to form the present Sierra Nevada block, however, another series of formations had been spread upon its surface. These are known as the superjacent series.

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These formations lie in a general way parallel to the slope of the Sierra Nevada, having participated in the tilting of the block. They have been dissected by the great cañons which have sunk into the Sierra Nevada in consequence of its uplift. They are therefore known to us only in remnants lying upon the broad plateau-like divides between the cañons, but in the lower foothills of the range, along the eastern margin of the Great Valley, they form a fairly continuous sheet dipping at a low angle beneath the alluvium of the valley floor. The earliest of these superjacent formations are river gravels, which accumulated in broad shallow valley bottoms and are, *par excellence,* the famous, auriferous gravels or placers of the Sierra Nevada. These were buried by a series of volcanic mud flows, tuffs, agglomerates, and lavas, which, after filling up the valleys in which the gravels lay, finally spread out over the entire northern half of the region, levelling up the inequalities of the peneplain and transforming it into a perfect plain. This process of volcanic accumulation was, however, an intermittent one, and in the intervals between the different volcanic deposits, streams flowed through shallow valleys and spread out their flood plain gravels, which were in turn buried by succeeding showers of volcanic ashes or lavas. In these intervals the region was clothed with a luxuriant semitropical vegetation, as the abundant fossil leaves found in the finer deposits and the fossil wood found in the gravels amply testify. The formations of the superjacent series were laid down on a land surface, the only waters concerned in their deposition being those of the rivers; but on the western margin of the region, along the edge of the Great Valley, these same subaerial formations pass into deposits which were laid down in bodies of water, probably esturine and marshy in character, for here we find sandstones, and clays, and beds of coal; and these are apparently the equivalents of certain well defined marine formations of the Coast Ranges which are known to be of early Tertiary age.

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VI

We have thus far by convenient approaches and roundabout paths, as is the rule in finding one's way through the mountains, come upon some of the more important facts in the evolution of the Sierra Nevada as we know them today. It will be of advantage, perhaps, by way of summary, to arrange these briefly in their historical order. We have to begin with the Paleozoic and early Mesozoic marine sedimentary rocks and their intercalations of contemporaneous volcanic accumulation, for nothing earlier is positively known to us. These have within themselves the records of a prolonged and by no means monotonous history, which cannot here even be touched upon. But, treating these formations as a whole, it may be safely said that they at one time extended over the whole of the Sierran region. In middle Mesozoic time these formations were profoundly affected by what may properly be called a convulsion of the earth's crust. The strata were doubled up on themselves, sheared and otherwise intensely deformed, and were, as a final result of this disturbance, invaded by a mass of molten granite, which, beneath the surface, was far more extensive than the Sierra Nevada Range. As a result of this, the sedimentary and volcanic rocks were metamorphosed in two distinct ways, first, by the internal activities generated in them by their deformation, and, secondly, by the heat given off from the intrusive granite. The gold-bearing quartz veins of the range are also genetically connected with this intrusion. The general result of this disturbance was a mountain mass of Himalayan or Alpine type. Since then the region has never been submerged beneath the sea; in this respect it is in striking contrast to the neighboring Coast Range region, which, in the same interval of time, has been repeatedly depressed beneath the waters of the ocean, and has as often emerged. Having been always above sea-level,

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this mountain mass has been continuously in the zone of erosion, and by early Tertiary time it had been degraded to a peneplain, the drainage of which was close to sea-level. The auriferous gravels accumulated in the shallow valleys of this peneplain, and these in the northern half of the region, at least, were buried by accumulations of volcanic tuffs, later gravels, agglomerates, and lavas. Then ensued the dislocation and upheaval of the great mountain block by at least two distinct and widely separated movements. By these movements the great scarp on the eastern margin of the range was formed, the streams were changed in their courses, their erosive power was rejuvenated, and the scoring of the Sierran cañons inaugurated. The second of the two elevatory movements concerned in the uplift of the range, and possibly the first movement also, was accompanied by eruptions from a series of volcanoes distributed along the line of dislocation at the base of the great scarp. A few small volcanoes have been built up at a much later date within the mountain valleys.

VII

There remains to be noted one other important event in the geological history of the Sierra Nevada, and that is its glaciation. This occurred in the geological yesterday. After the dissection of the uplifted block had proceeded so far that the Sierran cañons had attained their present depth, and the geomorphic development of the middle and lower slopes of the range was much as it is today, the climate of the region changed, so that the warmth of summer was unable to remove the winter snows of the summit region. Whether this change involved a diminution of the mean annual temperature or merely a notable increase in the winter precipitation is a debatable question, which need not be entered into here. Certain it is that the snows accumulated through the

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years and centuries till by their weight they consolidated into ice, and as such flowed down the cañons for many miles from the crest to the west, and for a much shorter distance down the steep eastern scarp toward the Great Basin. This ice did not, however, entirely mantle the crest region. All the higher peaks and ridges rose above the gathering ground of the ice. The major centers of snow accumulation and, therefore, of ice distribution were located at the heads of the cañons and in the lee of the ridges and peaks, where conditions for drifting were favorable. As these ice streams moved slowly down the cañons, the latter were greatly modified. The rocky débris which mantled their slopes was caught up by the ice and carried forward. This material and similar fragments plucked by the ice from the rocky surfaces with which it came in contact, served as graving tools, and the floors of the cañons were deepened and widened by abrasion. In this way the normal V-shaped profile of the stream cañons was changed to the characteristic U-shaped profile of a glacial channel. But it was at the very sources of these ice streams that the most remarkable transformation of the form of the mountains was effected. Here the ice had the power of eating its way into the heart of a great mountain ridge or peak by a process of sapping the rocks. This process caused the head of the glacier to become half encircled by precipitous walls, although the floor upon which the ice rested was comparatively flat. By the recession of these encircling walls, under the sapping process at their base, great bite-like amphitheatres, or cirques, were carved out of the high crests. Since several ice streams, flowing in different directions, usually headed in one ridge, it frequently happened that opposing cirques met, and by the intersection of their precipitous walls effected an amazing reduction of the altitude of the summits in a comparatively short time, leaving a mere knife edge between the cirques, 1000 or 2000 feet below the original

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crest. In this way the preglacial configuration of the summit region has been profoundly transformed by ice erosion. The eastern scarp of the range has had its precipitous character accentuated, and, in general, the fierce element in the grandeur of the high Sierra is due to this ice action. Had the process continued long enough the result would have been the reduction of all the higher ridges and peaks to a level at which ice could not persist. Before the Sierra Nevada had thus been robbed of its crowning glory, however, there came about an amelioration of the climate. The warmth of summer began to overtake the snows of winter. The glaciers waned rapidly and steadily, and finally with a few exceptions disappeared, leaving the transformed landscape, the morainal embankments, the polished and striated rocks, and the perched erratics to testify to their former occupancy of the region. The few small ice fields that lie under the shadow of Lyell, Dana, the Palisades, and some other high peaks are the last poor remnants of a once vast system of alpine glaciers. The causes of this amelioration of the climate are unknown and form the subject as yet of mere speculation. It is clear, however, from the meagerness of the changes which have taken place since the glaciers vanished, that their vacation of the region is exceedingly recent, an event of some thousands of years ago at most. It is equally clear that the glaciation of the Sierra Nevada can not be correlated with the complicated glacial record of the eastern part of North America, but is more properly to be regarded as corresponding to the very last episode of that long and varied chapter in the geological history of the continent.

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THE ETHICS OF THE BHAGAVAD GITA AND OF BUDDHISM. II

CHARMIAN CRITTENDEN

The aim of both Krishna and the Buddha was practical, namely, to make it possible for as many people as possible to reach Nirvana; so we may rightly expect to find that neither of them laid much stress upon metaphysical problems, such as how the world came into being, or whether it is finite or infinite. The Buddha is by far the more positive about it, and rather less tolerant than Krishna. The former aims in his doctrine to leave out all non-essentials—to teach merely the truth concerning misery and how it could be made to cease. Such metaphysical questions were heretical and incompatible with the doctrine. They showed an inquisitive state of mind on the part of the questioner, and a tendency toward attachment to the outside world. He compares such a person to one who has been wounded by a poisoned arrow and who, upon the arrival of the doctor, refuses to have the arrow taken out until the doctor has told him who shot the arrow, and the kind of wood it was made of, and the sort of poison it was smeared with, and answered a dozen other equally inane questions. In the same way, man has been shot with the arrow of ignorance. The Buddha comes as a doctor to deliver him from the misery that it occasions; but the foolish man, instead of doing as the doctor bids, wishes to know the

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answers to these unimportant questions before the arrow is taken out. The result is that he dies. The time for answering such questions is after the attainment of enlightenment, not before.

This would seem the most sensible method of procedure and is much the same as that adopted by Jesus. Man's mind likes to play with ideas such as these, but to allow the mind to do so means to lose a great deal of intellectual power that should be applied toward the attainment of the correct mental conceptions necessary to enlightenment. The Buddha conscientiously tried to keep his disciples from such mental wanderings.

So far as I see, Krishna makes no such effort. This is not illogical, since he concerns himself principally with those who are capable of attaining union with him by high emotional love for him. Such individuals are not inclined to worry their heads about a logical explanation of how the world came into being, but would be quite contented with the description of how the worlds arose and are supported as given by Krishna in several passages, to the effect that they simply arose from him. Those people who are gifted with intuition either are so far above such petty considerations that they are not influenced by them—or else they know. The Sankhyan really should be so engrossed in his work of distinguishing between his actions and his soul that he does not concern himself about the outside world. Of course, there is no need for him to do so. The world (or rather the material out of which the world is formed) is real and eternal. The question as to *how* the world came into being is answered, but the question *why* is not. The Yogin feels no particular need for the answer to the latter question, and the Sankhyan should be able by means of his superior intellect to see that the question has no bearing upon his ultimate release.

But what about the unfortunate whose mental powers leave much to be desired, and who is incapable of exalted

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emotional love for Krishna? Is he sufficiently considered? I feel certain that a great many ordinary people go through much unnecessary suffering trying to figure out just such questions as these, simply because the futility of such mental striving has never been sufficiently inculcated into them. The Buddhist solution, in insisting that all such prying into the secrets of nature is useless, takes care of everyone except the Vedantist—who doesn't need to be taken care of.

Krishna and the Buddha agree that ignorance is the cause of all suffering. In the Gita, true knowledge is the sole requirement for salvation for those who are capable of *jnana-yoga* (union through knowledge). Once the Sankhyan has fully mastered the knowledge concerning the Field (matter) and the Knower of the Field (soul), that particular soul that was formerly connected with his body is freed from it and from all future bodies forever. The body will continue its life on earth quite without any consciousness, and therefore without attachment, until, in the natural course of things, it dies.

For those who are capable of *bhakti-yoga* (union through devotion), the same sort of knowledge is also necessary, in so far as the doctrines of the soul and the matter of the Sankhya are accepted by the Yoga; but Krishna does not consider knowledge of much importance in the Yoga of Devotion. It would seem that salvation is to be gained first through love of Krishna, and that when soul-vision has been attained by this means knowledge comes of itself. Krishna says (Gita 4:38): "Surely, no purifier is known here on earth like knowledge. This the one who is perfected in Yoga finds in time within his own soul." Thus the reward of the Yogin includes the intellectual vision of the Sankhyan, though the goal of the Sankhyan would not seem to involve the emotional vision of the Yogin. The next verse (4:39) would seem to show that some effort is necessary to gain such knowledge, even for the person

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who is "perfected in Yoga." "One who is full of faith attains knowledge, seeking after it with senses controlled." This latter verse seems to show also that knowledge is necessary for the attainment of supreme peace, even for one who is a Yogin. It is equally possible to take the last verse as meaning that the Sankhyan must possess faith before he can attain knowledge. It is a foregone conclusion that anyone who puts every ideal and action to the test of the mind as a standard of its validity, as the Sankhyan would do, must have faith in the mind. The faith of the preëminently mental person is as great as that of the one who places his trust in either the emotion or the intuition, if one does not limit the word "faith" to the narrow emotional meaning.

Regarding the true unity of the reward of both Yoga and Sankhya, Krishna says (Gita 5:5), "That state which is reached by the Sankhyan is also reached by the Yogin. He who sees that the Sankhya and Yoga are one, sees indeed." This would seem to suggest that ultimately the Sankhya and Yoga attain the same goal, though in the first stages the rewards of the two must be different.

For the *karma-yogin* (one who strives to attain union through works), whether he be capable of the emotional exaltation necessary to make a sacrifice of all his works to Krishna, or whether he may voluntarily renounce only the rewards of his work, knowledge is necessary at first simply of the fact that this is the proper way for him to attain salvation. After this goal has been nearly attained, I should deduce from the following verse (Gita 10:10) that knowledge would be attained: "To those who are always united and who worship me full of love, I give union through the intellect (*buddhiyogam*) by which they may attain to me." Also (10:11), "Bending down to them, yet retaining my own nature, I destroy their darkness arising from ignorance with the flaming light of knowledge." Here again is the notion of knowledge

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being bestowed upon the *bhakti-yogin* or even upon the *karma-yogin*. Also this knowledge would seem here to be necessary to the attainment of union with Krishna.

Throughout the Gita, Krishna lays stress upon the knowledge at least of the path that one is competent to follow.

For the Buddha, ignorance is the real root of all evil and suffering. It is generally mentioned as the first member of the formula of "Dependent Origination," which runs as follows:

> On ignorance depends karma;
> On karma depends consciousness;
> On consciousness depend name and form;
> On name and form depend the six organs of sense;
> On the six organs of sense depends contact;
> On contact depends sensation;
> On sensation depends desire;
> On desire depends attachment;
> On attachment depends existence;
> On existence depends birth;
> On birth depend old age and death, sorrow, lamentation, misery, grief and despair.
>
> —*Buddhism in Translations*, 84.

Later he explains (171) that ignorance is not "the causeless primary cause of the world," for ignorance depends upon the arising of the depravities (sensual pleasure, passion for existence, heresy, and ignorance); but that in speaking of rebirth—the condition that is to be escaped from—it is most convenient to consider ignorance as the starting point.

Since all these various forms of misery arise from ignorance, upon the destruction of the latter they also are all destroyed. But there is in Buddhism no comparatively easy path to the destruction of ignorance, as there is in the Gita. One cannot attain perfection in Yoga first, and then find wisdom in one's soul. Knowledge must be gained first, and then release will come. The discipline in elevated wisdom is the means by which

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ignorance is to be abandoned, and this discipline consists in complete mastery of the "Four Noble Truths." Briefly these are:

I. The Noble Truth of Misery

Birth is painful, and so is old age; disease; death is misery; sorrow, lamentation, grief, and despair are misery; to wish for what one cannot have is misery; in short, all the five attachment groups (form, sensation, perception, predispositions, and consciousness) are misery.

II. The Noble Truth of the Origin of Misery

It is desire leading to rebirth, joining itself to pleasure and passion and finding delight in every existence—desire, namely, for sensual pleasure, desire for permanent existence, desire for transitory existence. It may arise from anything that is agreeable to man.

III. The Noble Truth of the Cessation of Misery

"It is the complete fading out and cessation of this desire, a giving up, a loosing hold, a relinquishment and a non-adhesion." It may be destroyed in just those things in which it arose.

IV. The Noble Truth of the Path Leading to the Cessation of Misery

It is the Noble Eightfold Path, to wit:

1. Right Views (free from superstition and delusions).
2. Right Aspirations (high and worthy of the intelligent, earnest man).
3. Right Speech (kindly, open, truthful).
4. Right Conduct (peaceful, honest, pure).
5. Right Livelihood (bringing hurt or danger to no living thing).
6. Right Effort (to prevent the arising of, or to abandon, all demeritorious qualities; and to cause the arising and the preservation of all meritorious ones).

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7. Right Contemplation (when in respect to the body, the sensations, the mind, the elements of being, the priest lives observant of them, strenuous, conscious, contemplative, and has rid himself of lust and grief).
8. Right Concentration (the successive entering of the four trance states, the first characterized by joy and happiness, the second by inner tranquilization and intentness of thought, the third by indifference, contemplation, and happiness, and the fourth by the absence of misery and happiness—contemplation refined by indifference).

Thus it will be seen that the powers of intellect and will are both necessary for the attainment of Nirvana, the intellect to comprehend the Four Noble Truths, the will to hold the "individual" to the Eightfold Path.

Of all the people of the Gita, the Sankhyan would be best fitted to become a Buddhist, for his intellectual power is assured, and his will would be well developed. Moreover, the doctrine would probably appeal to him, for it is but a very short step from the nearly passive soul of the Sankhyan, whose one active power is that of bringing the matter to which it is attached to consciousness, to the Buddhist denial of the soul, in which consciousness is a power inherent in matter. The denial of the true existence of the soul would disconcert him more, but to consider all action as taking place in matter is not so very different from this idea:

> Misery only doth exist, none miserable.
> No doer is there; naught save the deed is found.
> Nirvana is, but not the man who seeks it.
> The Path exists, but not the traveler on it.
> —*Buddhism in Translations,* 146.

Contrary to the teaching of the Gita, Buddhism excludes from the attainment of Nirvana everyone who does not possess deep intellectual understanding and great will power—at least until they have gained these.

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The Bhagavad Gita is more hopeful. According to verse 5, chapter 8, one may attain union with Krishna merely by fixing the thoughts firmly upon him at death—a seemingly unjust and illogical proceeding. "He who at the time of death, thinking of me puts off the body and goes forth, comes to my Being, without doubt." This is probably the easiest way, though perhaps it is not so easy as it seems; for the hour of death would seem to be the time at which the mind and the emotions would be most liable to be distracted. Probably it is true that anyone who is capable of fixing them upon Krishna at this time deserves the reward he receives, on account of past love of Krishna and concentration upon him. Krishna wisely points out that it is best to fix the thoughts always upon him, so that they will be sure to be upon him at death.

Again (Gita 11:55) the upper class of *karma-yogins* is accounted for: "He who works for me, who is intent upon me, who is devoted to me, free from attachment and without enmity toward all beings, comes to me, O Pandava." No great power of either intellect or will is required of these people.

But there are other passages in which the fate of the *karma-yogin* seems less assured. In the opening verses of the twelfth chapter, Krishna enumerates the paths that various persons are fitted to follow, stating in each case the reward to be gained, namely, salvation. But on reaching the last class of those who can only renounce the fruits of work, he says that these "becoming self-controlled, should make a renunciation of all the fruits of work," without stating definitely that by this means alone they will attain release.

In 6:36 Krishna states that Yoga is with difficulty won by *karma-yoga* alone: "Yoga is difficult to attain for one whose self [which the Çridhari commentary interprets as *cittam,* or thought] is uncontrolled; but it may be attained by one whose self [or thought] is

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subdued and persevering, by the right methods." It is the yogin who practices the discipline of the Yoga philosophy that possesses these powers. Of course he must also be a *karma-yogin.*

Verse 25, chapter 13, of the Gita, has a distinctly Buddhistic flavor. "But others who even though not knowing [the Self] upon hearing it from others, worship, they cross over death, intent upon what they have heard." What they heard is not Buddhistic, but their method of attaining Nirvana is; compare *Buddhism in Translations,* page 268: "The Brahman and his wife, in great delight, gave a liberal repast, and at the close of breakfast, The Teacher preached to these two persons the Discourse on Old Age. At the close of the discourse, both the Brahman and his wife became established in the fruit of never returning." That is, they were subject to death on earth no more, but would go to some Heaven-world whence they would pass into Nirvana. Krishna, in saying "cross over death" and not "reach salvation" very likely had the same procedure in mind. It is probable that in both cases the persons concerned merited the reward through striving in past existences.

DESIRE AND ATTACHMENT

The keynote of the ethics of the Gita and Buddhism is non-attachment. Perhaps more is said about it in the Gita, but it is no less important in Buddhism on that account.

The highest type of human being in the Gita is the Yogin. Krishna says (6:46), "The Yogin is regarded as higher than the men of penance, higher than the men of knowledge; the Yogin is higher than the men of works, therefore become a Yogin, O Arjuna." Also (6:47), "Among all Yogins he whose inmost soul is intent upon me, who worships me full of faith, I consider the most truly united."

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But the realization of Krishna as obtained through devotional exaltation is not sufficient. Work must be performed. The passage 3:4–9 is probably the most profound defense ever given for unselfish work. Arjuna has just asked why, if knowledge is superior to work, one should work at all, especially at such dreadful work as it is his duty to perform. Krishna replies that Yoga may be attained in two ways—through the Yoga of Knowledge for the Sankhyan, and the Yoga of Works for the Yogin. It is worthy of note here that he does not say "Yoga through Faith" or "Devotion" for the Yogin. It is plain that he considers unselfish work as a fundamental necessity for the Yogin. He goes on to say, "Not by abstaining from Karma does man attain the absence of Karma, nor does he reach supreme felicity through renunciation alone. No one at all may remain for even an instant without performing Karma. Everyone is involuntarily caused to do Karma by the qualities that arise in matter. He who restrains the organs of action, but remains with the mind intent upon objects of sense, is said to be one of misguided behavior. But he who, controlling his senses through his mind, enters upon work, O Arjuna, with the organs of action, he, detached, excels in the Yoga of work. Perform work constantly, for work is superior to non-work. Bodily subsistence cannot be obtained through non-work. Elsewhere than in Karma performed for the sake of sacrifice, the world is bound by Karma. Therefore, O Kaunteya, perform work free from attachment."

Further on (4:18) Krishna says, "He who sees work in non-work, and non-work in work, is possessed of knowledge among men. He has accomplished the whole work."

These verses, of great beauty, simplicity, and profundity of thought, give the essence of Krishna's doctrine of non-attachment. It is not the performance of work that causes Karma in the technical sense of potential but not actual deeds and thoughts that will take form

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in the future, but only the attachment thereto. When this is conquered, Karma does not cling to the individual, nor does it require future existences to bring about its projection from the mental plane upon the material plane.

Verse 4:18 above calls attention to the fact that work is important because of its unimportance. Existing is synonymous with working—the one cannot be without the other; but work may or may not be done with attachment; and so far as the whole universe is concerned, it makes no difference whether the individual is attached to his work or not. But as regards the individual, salvation cannot be attained while he is attached to what he does. Now to every entity in the universe a task is given, and the frictionless performance of this duty should be the aim of every entity. But wherever there is attachment to work, some alien claim asserts itself. Instead of aiming solely at the performance of his duty, man works for the gratification of senses or mind. All his energy is necessary for the correct performance of his duty, but in thus trying to satisfy other ideals outside of this, his energy is dissipated, his duty not perfectly performed.

Consciousness of one's duty and unreasoning instinct are the means by which nature assures herself of the performance of every necessary action. If man does not work under one of these he must work under the other. But if he does not perform his duty, he is troubled, his conscience gnaws unceasingly; the mind has continually before it the action that should have been done, and worrying over this, becomes attached to it. It is this attachment of the mind that is real work. Instantaneous performance of duty involves no such mental attachment and consequently no Karma. Hence "working is non-Karma and non-working is Karma."

Attachment is twofold: to the rewards of action and to the belief in personal agency. The *jnana-yogin* must

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be free from both sorts, while the *karma-yogin* is called upon only to renounce the first. The Buddhist priest should renounce both, and the layman should do likewise as far as he is able.

In making a distinction between people according to their capabilities of renunciation, the doctrine of Krishna seems superior to that of the Buddha. The latter does not lay any particular stress upon non-attachment for the layman. He probably has in mind that true renunciation of the reward of action is very hard, but not impossible for one in worldly life. One may strive to do everything simply because duty requires it, but in the back of one's head there remains the thought that the reward of action is necessary to the performance of one's duty. It is one's duty to support his family, and the more reward he gets the better this duty may be performed; but it would be very hard for him to strive to increase his reward without becoming attached to it.

But in speaking of the saint, the Buddha emphasizes the necessity of complete lack of attachment as fervently as Krishna. In the fire-sermon Buddha says that all things are on fire with the fires of desire, hatred, and infatuation. To these fires are sacrificed all manner of things of sense and mind, with the idea that the fires will be stilled and freedom from burning desires achieved. Such action only makes them grow. The "learned and noble disciple" is freed from passion concerning all things, though his sensations and consciousness are in no way reduced. "Your majesty, he that is not free from passion experiences both the taste of that food, and also passion due to that taste; while he who is free from passion experiences the taste of that food, but no passion due to that taste." (*Buddhism in Translations,* 421.)

In discussing fruitful and barren Karma the Buddha says, "Covetousness . . . . , hatred . . . . , infatuation are conditions under which deeds are produced." When action is performed under these conditions they will be

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sure to ripen, but when action is performed without these, it leaves no Karma. The Buddha compares these three to the water that makes the seed of Karma grow into a future action. If that water is not there the Karma cannot grow.

A goodly proportion of worldly pursuits rests primarily upon selfishness and ignorance, and it is only upon the renunciation of these that one may attain Nirvana. But this is not possible for everyone, so the Buddha lays down a set of commandments for the guidance of both clergy and laity:

1. Not to kill animals or human beings.
2. Not to steal.
3. Not to lie.
4. Not to drink intoxicating liquors.
5. Not to be unchaste.
6. Not to eat after noon.
7. Not to witness dancing or the performance of plays.
8. Not to use garlands, perfumes, or ornaments.
9. Not to partake of any worldly vanity, or to sleep on a bedstead.
10. To dwell in voluntary poverty.

The first five are always to be observed by both laymen and clergy. Six, seven, and eight are to be observed by the laymen on the Sabbath. All the ten are to be observed by the priests.

In none of these commandments is there any mention of non-attachment of the mind, the layman being merely required to absent himself from the world at certain times. In this respect the Gita is superior, for the time to inculcate non-attachment in people is when they are undeveloped mentally, not after the intellect is sufficiently evolved to direct all action. Krishna does the former in requiring at least the renunciation of the rewards of action.

Again, the Buddha requires complete retirement from the world to attain Nirvana in this life, and in so

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doing ignores a very important factor in human nature of which Krishna takes cognizance, namely, that for ordinary people lack of desire for things of the world often comes merely from getting tired of them. The Buddha seems to hold that the only way of getting rid of desire for objects of sense is to retire from the world altogether and then, by purely mental effort, to force the emotions and the mind to give up all desire for sensual gratification and useless knowledge. But if an ordinary person were to attempt such a procedure, he would become more mentally attached to physical or mental enjoyments than ever, the absence of any means of gratifying the senses merely increasing the attachment to them. No one can say that the Buddha is wrong, for we cannot tell whether, after a person has renounced the world only because he has become tired of it, desire for worldly things may not spring up again in some future life. Perhaps the voluntary separation from all things of sense and the purely intellectual conquering of desire for them *is* the only way of overcoming desire. If this is true, Krishna should not encourage the continuance in worldly pursuits.

But so far as our knowledge extends, detachment as regards things of sense is most easily gained among things of sense, not away from them. Krishna favors this method when he insists upon people remaining in the world and doing the duties that are assigned to them there. This is the easiest way of conquering attachment, but, as I say, we have no means of knowing whether or not it is the right one.

It is not quite correct to say that the layman cannot attain Nirvana without entering the Order. He may attain the "fruit of never returning"—that is, to become *anagamin,* never to be subject to birth upon the earth in the future, but to be reborn in some heaven-world, whence he would pass into Nirvana. But the difficulties to be encountered are innumerable, and entrance into the

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Order is to be preferred, for in this way Nirvana may be gained in the present life.

The bonds that keep people from attaining Nirvana are called the Ten Fetters. They are:

1. The Delusion of Self. If a man believes in an ego, he is certain to feel either love or hate toward it. This feeling leads him to do things that are detrimental to "himself": he either begins some sort of self-mortification to purify his ego or, due to his hatred of the idea of an ego, he convinces himself of its non-existence, and so, believing that there is no entity to which evil deeds may attach themselves, he strives for sensual pleasure through any and every form, mostly bad, and lays up for himself thereby an immense store of bad Karma which he will have to work off. But if he considers himself as nothing more or less than the sum total of his faculties, all of which have the form they possess because of an infinite series of causes behind them, he finds nothing in himself to love or to hate. In the destruction of this fetter the way is opened to perfectly altruistic action, to universal love, the keynote of Buddhism. (Action for the good of all beings is emphasized in the Gita too, but the way of carrying it out is exactly the opposite of the Buddhist way, namely, by unwavering attachment to the self, which is the Self of the Universe.)

2. Doubt of the Teacher, the Dhamma (the Law), the Order, the System of Training, past, future, and present action of Karma, and the qualities which arise from Karma. One must have faith, not in the ability of the Teacher to save, for man may only save himself, but in the method of attaining salvation as laid down by him.

3. Belief in the Efficacy of Morality and Ceremonies. The mere performance of good works and sacrifices does not help one on the road to salvation, but only to a good future life. Krishna does not hold this view. With him, even the voluntary renunciation of the fruits of action was a step on the path to salvation. Sacrifice to the gods should be performed by those who worship the gods, and sacrifice of their whole life to Krishna by those who are devoted to him. As a matter of fact, the Buddhist ideal of the priest is of one who has turned

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his life into a sacrifice to all living creatures, remaining on earth solely for their benefit, since Nirvana awaits him at death.

4. Love and Hate. One should never love or hate any individual thing to such an extent that it interferes with one's own best interests; but benevolence toward all things and the fulfilment of one's duty toward them is required. In the matter of retiring from the world the priest does not act selfishly, for a priest is of more value to the world as a whole than a layman. Both asceticism and passion are decried. The Buddha asserts that both are evil and harmful. Neither should the mind be occupied with the satisfaction or the violent suppression of desire. In Buddhism such practices do not even lead to a good future life—but probably Krishna would have allowed them some reward.

5. Ill-will. To do away with this, one quarter of the world at a time should be pervaded, first with love, then pity, sympathy, and equanimity. (Compare the Gita, 12:13, 14: "He who is without hate toward all creatures, friendly, without 'mine,' without the 'I-maker,' equal in pain and pleasure, patient—he is beloved of me.")

6. Love of things earthly.

7. Love of things heavenly.

8. Pride in being one of the elect.

9. Self-righteousness.

10. Ignorance, or Stupidity, which, being the beginning of Dependent Origination, has had a longer time to establish itself, and is harder to get rid of.

When the Four Noble Truths have been fully realized, the Ten Fetters broken, Dependent Origination understood, and the three characteristics, transitoriness, misery, and soullessness, perceived everywhere in the elements of being, *arahat*-ship (saintship) is the reward. This is the Discipline in Wisdom, but there are also the Disciplines in Conduct and Concentration. All three of these are called the Way of Purity, and are followed by the *arahat* or saint. In the Discipline of Concentration are included the Forty Subjects of Meditation and the Four Trance States, which the Buddha recognized as

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good for diminishing passion, but not resulting in its complete extirpation. The Discipline in Conduct simply implies the "non-performance of any wickedness." It is plain that intellectual understanding is the most important requirement for a man who wishes to tread the Way of Purity.

Concerning Nirvana, the aim of ethics, little definite information is given in either the Buddhist writings or in the Gita. The Buddha, like Jesus, realized that such speculations did not lead to Nirvana, and discouraged them. Concerning Nirvana he said, "There is, ye disciples, an abode where there is neither earth nor water, neither air nor light, neither infinity of space nor infinity of time, neither any being, neither representation, neither this world nor yonder world. There is neither beginning nor end, neither death nor birth, neither cause nor effect, neither change nor stagnation. There is, ye disciples, an unborn state, an unarisen; a state not yet existing, not yet formed. If this were not so, there would be no escape from the world existing, arisen, formed."

In the Gita, Nirvana is the state, for the Vedantist, in which one's self is understood to be identical with the Self of the universe. For the Sankhyan, it is the state in which the soul is completely freed from all connection with matter, through the realization by means of the intellect that the soul is purely passive. Since the Sankya and the Yoga are really the same, as we are told, this must be the end of the Yoga too, though in some way the Yogin also acquires the vision of Krishna as the whole universe through devotion to him.

In both Buddhism and the Gita, Nirvana is to be attained through knowledge, either as won by the individual himself or as bestowed upon him. Both are absolutely mechanistic, Buddhism and the Sankhya making the individual capacity of choice subject to the law of cause and effect. The Yoga follows the Sankhya. For both, non-attachment is the basis of all truly right action,

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and all actions are to be performed ultimately for the good of all. Salvation is the result of one's own actions, and is not arbitrarily bestowed.

The most important differences between the two are that, in Buddhism, knowledge must be gained before salvation is reached, while in the Gita salvation may be reached first and knowledge attained afterward. Buddhism denies the existence of any permanent entity anywhere in the universe, the plurality of methods of attaining salvation that are really practical, and asserts the essential evil of everything in the known universe, Nirvana being the only good.

I fear that this paper has been rather dull, so I feel it my duty to try to refresh the reader with a story. I have chosen that of "The Serpent Who Wanted to Become a Priest," which is light enough for my purpose, yet sufficiently illustrative of the Buddhist virtues not to be out of place.

The Serpent Who Wanted to Become a Priest

—Now at that time a certain serpent was distressed at, ashamed of, and loathed his state as a serpent.

Then it occurred to the serpent as follows:

"How can I become a human being? Now here are these Sakyaputta monks. If I retired from the world under them, I might gain release from my state as a serpent and quickly become a human being."

So he went to the priests in the guise of a youth, and they received him into the order. The serpent dwelt with a certain priest in a cell on the outskirts of the monastery. When the priest had gone out the serpent felt safe and went to sleep. Then the whole cell became filled with the snake and his coils hung out at the windows.

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And the priest, wishing to enter the dwelling, pushed open the door and saw that the whole house was filled with the snake. So he shrieked.

The Brothers came running up and said, "Brother, why did you shriek?"

"Brethren, this whole house is filled with a snake, and its coils are hanging out the window."

Then the serpent woke, and the priests said to him, "Who are you, brother?"

"Reverend sirs, I am a serpent."

"But wherefore, brother, have you behaved in this manner?"

Then the serpent explained to the brethren, and the brethren to the Blessed One. The Blessed One said:

"You, verily, are a serpent, and not capable of growth in this Doctrine and Discipline; go you, remain in your state as a serpent, and keep fast-day on the fourteenth, fifteenth, and eighth days of the half month; thus shall you gain release from your state as a serpent, and quickly become a human being."

"He says I am not capable of growth in this Doctrine and Discipline," said the serpent; and with tears and shrieks he sorrowfully and dejectedly departed.

—*Buddhism in Translations*, 401.

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KEDDRA

A Play in One Act

HOWARD MUMFORD JONES

MELNAK
JASPER
THE YOUNG PRIEST
THE HAIRY ONE
THE CLUB-FOOTED ONE
THE APE-LIKE ONE
THE BLACK ONE
THE LEAN ONE
THE LIVID ONE
KEDDRA
NAWDIA

No one knows when the blue gods first came to rule in the valley, for the oldest of those living there remembers only that they were fixed and permanent institutions (like the wind and the rains) when he was himself a child. Perhaps, indeed, they have ruled there forever, and their long blue hair has always been like a wild comet floating against the northern sky. Moreover, because their temple is ancient and its pillars time-eaten, there are those who declare that the gods must be at least as old as their dwelling place. Who can dispute with man in such matters? Is he not marvelously subtle and beyond the comprehension of the deities?

The temple of the blue gods lies, as every one knows, on the far outer slope of the mountain scree which bounds the valley. Thence it is that the bronze cymbals of the priesthood ring harshly, and as their sound crumbles slowly into silence, the inhabitants lift up their eyes for a moment to the sullen walls of the temple above. Thence, too, float whispers of mysterious sacrifices to terrify the shepherds of the plain. And thence, at irregular intervals, the gazer from the valley sees the priests in

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their yellow robes passing against the sky, ominous and lonely, bound on strange errands and coming to stranger ends.

But the priests have not passed against the skyline of late, and if the gongs of the temple have sounded, they have been sharp and menacing. Wild rumors have startled the dwellers in the valley, and caused them to snatch fearful glances, first at the temple and then at the growing darkness of the northern sky. And in the temple of the blue gods the time-eaten pillars have shivered twice, and the uneasy priests have cursed, and then looked wanly upon the heavens.

* * *

A corner of the interior of the temple is made visible. Two massive walls meet at an angle at the back and to the left of the stage. As a consequence, the right-hand wall reaches about two-thirds of the way across the stage in a diagonal direction before it joins the shorter left-hand wall. The loftiness of the walls indicates that the ceiling is immeasurably remote; they are wrought of some mysterious rock, dull blue in color, of the texture of coarse sandstone, the great blocks of which have been dexterously fitted together. Yet they give a curious impression of instability despite their impressive dimensions: they seem—there is no other word—moth-eaten, and they are discolored as if by the centuries.

In the center of the right-hand wall are two ponderous and gloomy gates which have not swung upon their hinges within the memory of man; instead, a smaller door, not much higher than a man's head, has been cut through the lower panel of the right-hand gate, and through this postern the priests have access to a balcony overhanging a great space toward the north. To the extreme right of this same wall there is a doorway, opening upon a sombre hall. Over this entrance hangs a blue tapestry, embroidered in gold with arabesque designs.

In the left-hand wall there is also a door, but a door raised above the level of the floor to an extent permitting two steps to lead up to the platform before the door. This entrance, which is draped with an arras precisely like the other, leads into a chamber. The platform in front of it is about ten feet by six, and one mounts to it by the steps, which extend entirely around it. Upon the outer corner of this platform toward the back there is an iron standard taller than a tall man's head. This standard supports a kind of cresset, the fitful light of which serves to illumine the chamber.

In the middle of the stage there is a low, circular platform about three or four feet in diameter and some six inches high. The steps and the two platforms are dingy white, and the central platform in particular is cracked and old.

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Toward the right of the stage and in front there is a brazier, supported by a tripod of brass, carved in the semblance of three intertwining serpents. The eyes of the serpents are made of rubies, which gleam dully in the pale light of the flames of the brazier. Tripod and vessel are alike old, and green with damp and verdigris.

A white heap of clothes behind the brazier marks where a woman is miserably lying. She seems to have lain there forever.

In the pause that follows the rising of the curtain the silence hangs heavily over the temple. Then A PRIEST, his head close-shaven, a short yellow robe upon his body, scurries like a frightened rabbit out of the doorway to the left, darts down the steps, and goes hurrying out of the door to the extreme right. The woman does not move.

A gong sounds hollowly from some subterranean chamber; before the reverberations have quite died away, there follows a succession of wild and furious strokes which cause the yelling echoes to tumble over one another in the hollow rooms. The woman stirs uneasily. Another priest, his yellow robe half-torn from his shoulders, enters from the door at the left. The blue tapestry impedes his hurried entrance—indeed, the hangings on the two doorways seem imbued with some fantastic life of their own—and with a muttered curse he jerks himself away, tearing the arras so that it hangs awkwardly across the door. Then he hurries on. This is JASPER. From the right-hand door, and almost stumbling over the prostrate woman, MELNAK enters and stops the other in the middle of the stage.

MELNAK is old, crafty, and hideous. His robe shows that one leg is deformed, and his arms are bent and twisted. In his face there is concentrated all that deception and fear, all that power and a life-time of service before the blue gods can produce in a soul already wild and demoniac. JASPER is younger, with a bald head, fishy eyes, a retreating chin, and great hairy arms and legs. His mouth is twitching convulsively, and now and then he slobbers from sheer terror and wipes his lips with his arm.

MELNAK

(Sharply) Well?

JASPER

They are coming! They are coming! We have seen them! They are coming from their blue towers in the north.

MELNAK

Who is at the outer gates?

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JASPER

I . . . . No one . . . . I came away. The star-gazer has seen strange lights in the clouds. And then he saw the shadows of their white beards across the stars. It is they—it is the gods!

MELNAK

(Contemptuously)

There are no gods. Go into the Chamber of the Scourges and wait.

JASPER

(Craven with a new fear)

No! No! I will go back. I will go back to the gates!

[JASPER attempts to avoid MELNAK by dodging around the little platform, but the latter, with unexpected dexterity, seizes him and pinions his arms behind his back.]

MELNAK

(Fiercely)

You are a fool! And you have broken the Seventh Law—do you hear? The Seventh Law!

JASPER

(Gibbering) No—no!

MELNAK

(Slowly and with meaning)

It is not to the Chamber of the Scourges, it is to the Chamber of the Fire that we . . . .

(JASPER whimpers and looks desperately around him.)

MELNAK

In the Chamber of the Fire—do you remember Marzek? You were there.

JASPER

(Nodding and whimpering)

O send me to the scourges—don't send me to the fire! I—I will go back. I—I will be the first to meet the gods. . . . .

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MELNAK

(Sternly, with an obscene satisfaction)

You have broken the Seventh Law. And Marzek—how the flames ate his eyelids, and into the nails of his hands!

(JASPER shrieks.)

MELNAK

(Pushing him away)

To the scourges, then—dog of a priest!

[JASPER lies abjectly for a moment where MELNAK threw him down. Then he crawls to MELNAK's side and kisses his hand, fawning his thanks. At a curt gesture from the high priest, he sidles out by the door to the right.
MELNAK stands for a moment sneering at him; pauses; then goes to the door at the back, flings it open, and steps out on a narrow balcony that overhangs a great space. The doorway frames only an intense darkness. After a moment he returns, shudders as if with cold, shuts the door, and gazes with a troubled look at his hands.]

MELNAK

(As if to reassure himself) There are no gods. . . . .

[The woman stirs slowly, like one recovering from heavy dreams. At length she lifts her head and gazes far away. MELNAK is abruptly made aware of her.]

MELNAK

(Harshly, hobbling forward like the incarnate evil of the place)

Who are you? What do you want?

[The woman slowly turns her head and regards him in a daze.]

MELNAK

(Seizing her shoulder and roughly shaking her)

What are you doing here? Who are you?

[The woman releases his grasp and rises slowly, clinging to one of the legs of the tripod for support. She turns and looks fixedly at the priest; she does not cower, but as she takes in the whole horror of his face she shivers slightly and lifts her hand to her breast. And then one sees that she is not a woman, but a beggar girl, slim and

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virginal, and prematurely burdened with the monotonies of life. In the valley which is her home fear has been her daily bread until she has sickened of it, and passed beyond, into a lethargy that makes of living a negation. She wears a torn white robe, dirtied with the refuse of the highways. Her arms and feet are bare, the arms glowing with pale beauty in the uncertain light. Her lips are full and serious; the face, wan and tear-stained, and the dark, wide eyes are filled with simplicity and weariness, with childishness and pain. Her black hair hangs, knotted and dishevelled, to her waist. Her name is KEDDRA.]

KEDDRA

(Slowly)

. . . . we have seen . . . . in the valley . . . . we have seen, and therefore I have come.

[MELNAK looks at her with the sharpness of some hideous thing.]

MELNAK

None may enter here, except the priests. How did you pass by the guard?

KEDDRA

(Disregarding the question, timidly)

Is it true that the gods are coming? We have seen a great blackness in the north, as if their thrones were vacant and they had gone.

MELNAK

Answer me. Did you come alone?

KEDDRA

(Frightened, and backing to the other side of the brazier)

O, do not hurt me! Do not hurt me!

MELNAK

(Advancing to gaze evilly into her averted face, and more harshly)

Did you come alone?

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KEDDRA

(Terrified)
No . . . . my mother brought me. . . . . She is praying in the outer court.

MELNAK

Ah! *(He claps his hands twice)* Why did she bring you?

[Before KEDDRA can answer THE YOUNG PRIEST has entered at the door to the left in response to MELNAK's summons. He is clad in a yellow robe, like the others, and is tall and thin, with extraordinary ears and an enormous mouth.]

THE YOUNG PRIEST

(On the platform) Lord?

MELNAK

(Without turning)
There is a woman in the outer court. Bring her to me.

THE YOUNG PRIEST

My lord has said. *(He takes a step or two forward, and hesitates.)* There is—a certain thing—

MELNAK

(Looking at him) Well?

THE YOUNG PRIEST

It is not I that have said it, lord, but—the guards have fled—they were afraid, and in the north the stars are all blotted out, and a cold wind is blowing such as we have never had before.

MELNAK

It is well. The woman!

THE YOUNG PRIEST

Yes, lord.

[He looks curiously at KEDDRA, crosses the stage behind the little platform, bows to MELNAK, and goes out at the right.]

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MELNAK

You have not answered me.

KEDDRA

(Dreamily) Is it not curious? The little flowers are underneath the night. I . . . . I have picked the little flowers, but now . . . . *(She raises her hands to her face to hide it for a moment.)* Now I shall not pick them again.

MELNAK

(Impatiently)

Listen to me. I am the chief priest, the ruler here. Either you will answer me, or I will have you thrown to the snakes. . . . . And the snakes will bite into your smooth flesh with their slimy jaws, and wind their long green bodies around your throat and breasts. Do you hear?

*(*KEDDRA *gazes at him with fascinated horror.)*

MELNAK

(Coming closer)

Answer me. Why did you come to the temple of the blue gods? Why did you come tonight?

KEDDRA

(Almost inaudibly)

I am Keddra. . . . . Keddra, the beggar girl. . . . . All summer long I sit by the roadside with my wooden bowl. . . . . Sometimes they give me money, and sometimes food, melons, and broken pieces of bread. . . . . Melons—they are good. . . . . *(She looks at him obliquely.)*

MELNAK

(In exasperation, advancing and trying to catch her)

Will you answer me?

KEDDRA

[Turns and flees to the little platform, where MELNAK catches her by the arm.]

Oh . . . . Oh . . . . you are hurting me!

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MELNAK

I will send you to the snakes!

KEDDRA

No! No! *(He twists her arm)* I am coming to it! . . . . If you will stop hurting me, I will tell you.

[MELNAK stops twisting her arm, but he does not let go of it.]

KEDDRA

In the summer, it was nice. I lay in the sun and counted the flights of the pigeons. But my mother—in the autumn she was afraid. And then she beat me. And now for three days in the valley we have been afraid. The priests have not left their basket by the shrine to be filled, and at night—I have heard a thing that the others have not heard.

MELNAK

Well?

KEDDRA

I saw a soothsayer in the road, wandering up and down, and chanting that the stars were uneasy upon their marble seats. . . . . Moreover, for three nights there has been a great darkness in the north. And each night it has come nearer. And it is whispered—it is whispered that the time of the coming of the gods is at hand. Because the gods will demand a sacrifice, I—I have been made to come.

MELNAK

Come here. Let me look at you.

[He forces her to follow him into the circle of light from the standard. Then he lifts her chin with one of his great fingers. As he sees her face, young, fresh, and beautiful despite her tears, he gives a sharp exclamation of surprise and drops his hand.]

MELNAK

How old are you?

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KEDDRA

(With vague languor) I do not remember.

[AS MELNAK is about to lay hands on her again, THE YOUNG PRIEST enters from the door at the right, dragging with him an old woman, wrinkled, twisted, and inhuman. This creature is NAWDIA, the mother of KEDDRA. She is clad in a single coarse garment of a gray color, and wears sandals. Her hands are like claws, her eyes, fierce, her hair (what there is of it) drawn tightly back over her head. She would look like a witch in a fairy tale, were there not in her look something more ominous than diablerie, something superstitious and fanatic. Her whole life has been concentrated on one thought: how best to avoid the jealous and unreasoning anger of the gods, and even now she is muttering some dark propitiatory prayer. When she sees KEDDRA and the priest, she breaks from her captor, sidles swiftly around him, seizes KEDDRA, whom she contrives to push even closer to MELNAK, and herself falls on her knees before him.]

NAWDIA

(Almost shrieking)

Take her! Take her! I give willingly! The gods demand sacrifice. The gods like sweet flesh. I am old—I do not want to have to die!

[THE YOUNG PRIEST tries in vain to capture her, but she lets go of KEDDRA only to cling about the knees of MELNAK.]

NAWDIA

I give willingly! And she is mine to give—the lamb of my body. . . . .

[MELNAK pushes her off, whereupon from her kneeling position she begins to stroke the body of KEDDRA, who stands with her arms rigid at her sides.]

NAWDIA

She is a virgin! I give willingly. The gods demand it.

KEDDRA

[The ice suddenly melts and she carries her hands to her face in a characteristic gesture, with a quavering cry.]

Mother! . . . . I—I am too young. . . . .

[She breaks from the group and throws herself upon the central platform, her body shaken by great, noiseless sobs.]

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NAWDIA

Too young! Ho!—ho! *(She scrambles to her feet.)* And I that am old, and have nourished thee with the milk of my breast—ungrateful one! *(To* MELNAK*)* Do not hear her, O priest! I give willingly. . . . . It is fitting that she should die to save us. She is young. The old have little enough to live.

MELNAK

When did you come here?

NAWDIA

(Rapidly)

It does not matter. This very minute *(fearfully)* the gods are nearer than they were when I came. Hasten, O priest, before—before it is too late!

[THE YOUNG PRIEST, who has meanwhile withdrawn into the background, trembles at the thought.]

MELNAK

(Coldly) You do not know whereof you speak. I am the priest. What is this cry of the coming of the gods? It is not true . . . . I have said.

NAWDIA

(Again almost screaming)

You do not believe? You do not believe? When it is written? You are a priest—you know the sacred laws. . . . . When one gives willingly—

[She stops short and listens intently, then screams at him with redoubled fury.]

Hurry, hurry, I tell you! We have not many moments. To the altar—sacrifice, sacrifice!

MELNAK

(Contemptuously)

The gods are not coming—it is a lie. I refuse the sacrifice.

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[NAWDIA is nearly speechless with rage and fear. MELNAK stands with folded arms looking down at her, until by the sheer weight of his will he has cowed her; then he turns to look covertly at KEDDRA, who has now raised her body from the stone and is sitting on the platform. NAWDIA stands inarticulate for a little space, then rushes at THE YOUNG PRIEST, and tries to beat him with her fists.]

NAWDIA

He has not read the laws. He has broken the oath of priesthood! It is written—it is written that the gods shall come in person to demand a reckoning. . . . . He has lied, he, a priest! And it is written also that whatever is given willingly can not be refused.

THE YOUNG PRIEST

(Falteringly) He is the lord!

NAWDIA

He has lied in the hearing of the gods. He—he—

THE YOUNG PRIEST

(Looks rapidly at MELNAK, *then at the woman, and moistens his dry lips with his tongue.)*

He has—the gods—they will not come.

[MELNAK has approached nearer to KEDDRA, at whom he is gazing with cunning and desirous eyes. She looks miserably ahead of her.]

MELNAK

(Softly to KEDDRA*)*

The knife of the priests is bloody. It is not good to die. Would you escape it?

[KEDDRA turns her head and looks at him dully. NAWDIA has been standing in a strained and listening attitude. Suddenly she throws back her head and points at the balcony door.]

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NAWDIA

He has lied—hearken! Their feet are even now upon the mountain ridges!

[A vague, dull sound is heard, followed by a babble of voices, which ceases as abruptly as it began. NAWDIA stands fixed and rigid. THE YOUNG PRIEST, in doubt whether to remain or to flee, searches the chamber desperately with his eyes. MELNAK stands erect, his head turned toward the door. KEDDRA does not seem to have heard.

Slowly the tension relaxes.]

MELNAK

(To NAWDIA*)* You are a fool *(To* THE YOUNG PRIEST*)* Take her away.

[But as THE YOUNG PRIEST is about to obey, the subterranean gong rings out as wildly and as unexpectedly as before. Each is stricken motionless, and before they can move, JASPER bursts suddenly from the right-hand door and flings himself at MELNAK'S feet.]

JASPER

(Panting from terror and lack of breath)

Lord! The gods! . . . . The mountain has once shaken, and in the court—in the court— They were lying motionless upon the stone—

MELNAK

The gods, fool?

JASPER

(Bowing himself in panic)

In the court—I saw it from the Chamber of the Scourges, and I have come to tell you. The sacred peacocks—

MELNAK

(Perturbed) Yes?

JASPER

(In a great gasp) They are dead!

[NAWDIA slinks to the back wall and cowers there; MELNAK stands erect, but visibly shaken; THE YOUNG PRIEST, throwing discipline to the winds, bolts to the right-hand door, where a sharp word from MELNAK stops him. Only KEDDRA is unmoved.]

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MELNAK

(To THE YOUNG PRIEST*)* Stop! . . . . I will go. *(To* JASPER, *who gets up at the command)* Come with me. *(To* THE YOUNG PRIEST*)* Remain in the hall behind us, that these women do not escape.

[He glances rapidly around the chamber, and leaves by the right-hand door, JASPER at his heels. THE YOUNG PRIEST hesitates, then follows them, drawing the curtain across the door behind him.
There is silence in the chamber of the blue gods for a little space, NAWDIA cowering by the wall, and KEDDRA motionless upon the little platform. Then KEDDRA slowly rises and wanders towards the brazier, on which she puts a hand. The whimpering of her mother becomes gradually audible.]

NAWDIA

. . . . I am old—old. . . . . I am too old to die. . . . . Let the gods have a care. There are others more guilty than I—the potter's wife, and the infidel basket-weaver, and—and my neighbor, Nazia. Let them take her. . . . . Moreover, I give willingly—

[KEDDRA does not appear to hear, and, possibly out of fear of the silence, NAWDIA goes on.]

Four times has Nazia forgotten the dawn-prayer, whereas I—I that am old, I have never forgotten. Once, indeed—but that was long ago. . . . . The gods have forgotten. . . . . Let them punish the others. . . . . I give the flesh of my flesh—

KEDDRA

(At the brazier, slowly and compellingly) Mother!

NAWDIA

(Raising her voice)

Accurséd one! . . . . The gods have given thee to me as they give plagues to the villagers . . . . and I that suckled thee . . . . *(Her voice is lost in a long, whimpering cry.)*

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KEDDRA

It is not certain that the gods. . . . . The priest said—

NAWDIA

May the itch take him! It is the law—what is given willingly must be sacrificed. There is no other.

KEDDRA

But the gods are not surely coming. The high priest—

NAWDIA

(Rising and coming forward)

The priest! May he be accursed! May the plague strike him, and the fever burn him, and the creeping sickness eat into his bones! *(Screaming)* I call the gods to witness—I have given willingly, and the priest has refused!—And thou—thou *(panting for breath she confronts* KEDDRA*)* thou seed of the serpent! Hast thou forgotten the time when I gave suck to thee? How as a youngling I fed thee and clothed thee and brought thee up according to the law and the fear of the gods? And that I saved thee from the bullocks in harvest time when thou wert yet but a creeping thing? Ungrateful one!

KEDDRA

(Wanly)

It were better if the bullocks had trampled me to death. Then—then—*(nervously clasping and unclasping her fingers)*—I had never known. Moreover—

NAWDIA

Listen to me, Keddra, evil one. It is written that the young owe obedience to the old. And now lest we perish in the valley beneath the anger of the gods, I give thee to sacrifice. Thou wilt save thy people, and thy mother that bore thee—

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KEDDRA

(Wandering restlessly about the chamber)
Oh . . . . oh!

NAWDIA

(Creeping up to her and lowering her voice)
The gods are just . . . . They ask but one sacrifice. And even now *(with a fearful glance at the door)*—they are coming!

KEDDRA

The gods! *(Faintly and ironically)* The gods!

NAWDIA

(Craftily)
Thy playmates will die, and Nazia who gave thee bread, and the lame beggarman. Also thy pet pigeons . . . . and I, thy mother. . . . .

KEDDRA

(To herself, gathering strength as she speaks)
Why have they done this to me? . . . . In the valley—one could lie all day in the sun. . . . . I was happy in the valley. . . . . Nazia and the beggarman—? . . . .

NAWDIA

The whole village must die—

KEDDRA

(Passionately)
I do not want to die—I do not want to die! *(After a pause)* And I do not want the children to die . . . . nor you. *(Another pause)* It is cold here . . . . *(Desperately)* I—I do not believe they are coming.

NAWDIA

(Enraged and fearful)
Not believe! Thou hast seen the darkness and the priests, how they were afraid, and thou hast seen thy mother, and heard the gongs—

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KEDDRA

I do not believe— *(She stops with parted lips. With a supreme effort she turns on her mother and speaks.)* There are no gods!

[NAWDIA does not comprehend at first, but as she gradually comes to understand KEDDRA's statement, she steps back a pace or two involuntarily, and raises her trembling hands to her head.)

KEDDRA

(Firmly) There are no gods.

NAWDIA

(Almost inaudibly) Thou—hast—blasphemed!

KEDDRA

(With mingled fear and desperation)

Why should there be? . . . . The little children do not know of any. And my pigeons—I have asked them, and they did not answer. And the flowers, and the little creeping things. What are the gods to them? It is only you who have always beaten me, you and the villagers who drive their oxen almost upon me in the road, and laugh to see me so frightened—it is only men who have gods. . . . . The trees are kinder than you. I—I do not believe.

NAWDIA

(Moaning to herself) Woe—woe! It is the end—

KEDDRA

(Striving to justify herself out of a life too short and bruised for philosophy, for anything, indeed, except passivity)

As for the darkness and the cold—there may be other reasons. And the priests—they are worse than the young men in the villages; they are afraid, and because they are afraid, the others are afraid, too. They are cruel. . . . . If there are gods, mother, why are the priests afraid? Surely the gods would protect their servants.

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NAWDIA

(Miserably)
Silence!—What wickedness possesses thee! *(Abjectly)* The gods will hear!

KEDDRA

I am not afraid— *(With an abrupt change)* But the chief priest—I am afraid of him. He is not good. His heart is evil.

NAWDIA

(Roused into action)
Wilt thou not cease, thou evil thing? Thou hast denied the gods, and now thou speakest against their holy servants. Thou wilt bring death—dost thou understand—death—death upon us all. Harken! *(There is a confused sound of voices.)* *(Shrieking)* They are coming! *(She stops short to listen)* I—I will kill thee myself lest thou bring greater harm upon me—upon me and the people. *(With growing excitement)* It will be an offering greater than any! . . . . Perhaps . . . . it will save us!—*(She looks around the chamber)* The priest has refused—I will myself make sacrifice. *(Wildly)* She has blasphemed! *(As though she were addressing the blue gods themselves)* It is not my daughter—she is none of mine—that has said this! It is an evil thing! She is none of mine!

[KEDDRA hurries desperately to the platform at the left. At the steps she turns, gazing wide-eyed at the other. Her breath comes in short gasps, and her face is very white.]

NAWDIA

If only there be a knife here—

[She searches about the chamber. KEDDRA stands motionless with terror.

As NAWDIA is feeling about the brazier, THE YOUNG PRIEST enters by the right-hand door.]

THE YOUNG PRIEST

Holloa! What is going on here?

[NAWDIA looks up, startled; comprehending that her opportunity is lost if she does not immediately seize it, she flings up both arms.]

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NAWDIA

With my hands, then—

[She rushes at KEDDRA, who stands petrified. But THE YOUNG PRIEST is too quick for her, and intercepts her.]

THE YOUNG PRIEST

So-o! What is going on? *(She struggles to escape, but he is too strong.)* It will better—so, my fine bird!—for you to be put where you can do no harm. . . . . Come.

[He drags her, protesting, to the platform and out through the left-hand door, KEDDRA mechanically making way for them. KEDDRA stares after them as they disappear. Then she walks uncertainly away. After an interval THE YOUNG PRIEST returns, brushing his hands together and adjusting his robe, and descends the steps.]

THE YOUNG PRIEST

(Panting slightly)

I have fastened her in the chamber beyond, where she can not hurt you. *(Not unkindly)* Why did she—?

KEDDRA

(Dully) She is my mother.

THE YOUNG PRIEST

(Shocked) Ah! *(Shaking his head)* That is too bad.

KEDDRA

Tell me, do you believe in the coming of the gods?

[All his fear, momentarily forgotten, returns. He stammers.]

THE YOUNG PRIEST

I—I do not know.

KEDDRA

(Coming nearer and speaking more vehemently)

You are not old like the others. You are young—and kind. *(With a catch in her voice)* Were you born in the valley?

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THE YOUNG PRIEST

Yes. Why do you ask?

KEDDRA

Do you remember how beautiful it was? How all day long the merchants and the caravans go up and down the road? And the women with their colored shawls? And the grass, and the wild birds in the marshes? How warm the sun is?

*(*THE YOUNG PRIEST *nods mutely.)*

KEDDRA

Did the gods make the white road, and the sunlight?

THE YOUNG PRIEST

Yes.

KEDDRA

Tell me, then, why do they want me to die?

[He does not answer. She catches him by the sleeve and shakes his arm.]

If they made the sunlight, what good will it do them if I die? . . . . Why are they angry with us? *(He is still silent.)* Are you afraid, too?

THE YOUNG PRIEST

(Firmly) It is the law.

KEDDRA

But they made the sunlight—and the living things—

THE YOUNG PRIEST

(Sternly)

It is dark now, there is no sunlight. Therefore—

KEDDRA

(Catching her hand to her lip) I know.

[She looks away as if for some miracle of help. JASPER enters from the right.]

THE YOUNG PRIEST

(Advancing to meet him, eagerly) What news?

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JASPER

(Clasping and unclasping his hands)
It is terrible—terrible. Never have I seen the like. . . . . The priests have shouted against Melnak—they are half mad. . . . . They demand a sacrifice.

THE YOUNG PRIEST

And Melnak?

JASPER

Melnak refuses.

[KEDDRA gives a little start of joy. She is at the back of the stage where she stands unnoticed, eagerly following the dialogue.]

JASPER

He has said to them—*(in an awed whisper)* that the gods are not coming, that it is a lie.

KEDDRA

(Involuntarily) It is true!

JASPER

(Looking at her) Is that the one?

THE YOUNG PRIEST

Yes!

JASPER

I thought she was old. *(Pitching his voice even lower)* They have heard there is a woman here, and they demand a sacrifice. . . . . When Melnak refused—

THE YOUNG PRIEST

Without the chief priest there can be no offering.

JASPER

It is true. They are holding council to see whether it be lawful to sacrifice without him. . . . . Never have I seen the like.

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THE YOUNG PRIEST

Nor I.

JASPER

That the priests should clamor against Melnak! . . . . If there be sacrifice, they say the gods can not harm us. It is the law.

THE YOUNG PRIEST

But Melnak denies it.

JASPER

. . . . I do not know what to do.

THE YOUNG PRIEST

Nor do I. *(They stand for a moment irresolute.)*

THE YOUNG PRIEST

(Breathlessly) And the darkness?

JASPER

(Fearfully)
I—I do not know. I did not dare to look. . . . . But some have said—

THE YOUNG PRIEST

Ah?

JASPER

Some have said that half the sky is blotted out . . . . And others—

THE YOUNG PRIEST

None will hear. There is only the girl.

JASPER

Others have said that the northern sky is on fire. . . . . They have seen strange lights, and a white fire. . . . . great banners marching . . . .

THE YOUNG PRIEST

(Weakly) I—I am afraid.

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JASPER

I, too.

THE YOUNG PRIEST

(Slowly)

. . . . whether the gods come or no, the priests are many. . . . . They are stronger than Melnak.

JASPER

(Evilly)

The girl there . . . . if we should take her to the priests—

[They turn to look furtively at KEDDRA, who shrinks away. MELNAK enters at the right.]

JASPER

Moreover—*(He stands with twitching lips, then speaks desperately)* And the gods—the blue gods are coming! *(He raises his hands above his head)* I believe! . . . . I believe! . . . . Melnak has lied. Let him perish. I will myself make the sacrifice—

[He strides toward KEDDRA with extended hands. She flies to the great gates at the back, where she turns and faces him.]

MELNAK

(With ominous coldness) Do not hurry.

[Jasper stops instantly, quivering in every limb, and turns slowly around.]

JASPER

(Stammering) L-lord!

MELNAK

Since you are so eager for the gods, you shall be the first to meet them.

[He glances rapidly around the chamber; his gaze is arrested by the balcony door where KEDDRA stands.]

Ah! . . . .

JASPER

(Trembling) Lord Melnak!

MELNAK

(Pitilessly)

You shall be the first. . . . . We will honor your zeal. Alone—upon the balcony there, you shall meet the gods.

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JASPER

(His face is gray, his eyes wide with terror)
Be merciful! Be merciful!

MELNAK

(With the air of a judge)
An hour ago you deserted the outer gates. When I sent you to the Chamber of the Scourges, you deserted that. And now I find you—

JASPER

Mercy! Mercy!

MELNAK

Now I find you about to usurp the office of the high priest himself. . . . . You desired to be the first to meet the gods. So shall it be. You other, there, open the door. *(KEDDRA steals away toward the left of the stage.)*

THE YOUNG PRIEST

(Timorously protesting) Lord!

MELNAK

(Turning on him) Must I also—!

[THE YOUNG PRIEST hurriedly passes to the balcony door, which he prepares to fling open. MELNAK approaches JASPER.]

JASPER

. . . . the darkness . . . . the darkness. . . . .

MELNAK

(Grimly)
To the gods—and greet them for me.

JASPER

Oh!

[MELNAK slowly forces him toward the door. As his back almost touches it, JASPER falls on his knees in a last agonized effort.]

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JASPER

Lord . . . . the great darkness . . . . and the cold . . . .

[MELNAK draws a knife from his belt, which glitters dully in the dim light. Terrified by the unknown horrors of the darkness, but more terrified by the immediate horror of the knife, JASPER slowly rises. THE YOUNG PRIEST, stepping behind the door, opens it, with his face averted from the mysterious presences in the north. KEDDRA stands staring through the open door. The darkness is deeper, more intense than before. JASPER passes out with a final shriek that floats mournfully away into the listening ears of his deities. The door closes. MELNAK replaces the knife in his belt.]

MELNAK

(Turning, he sees that KEDDRA *is alone)*
Where is the other one—the old woman?

THE YOUNG PRIEST

(Anxious to retrieve himself)
I have put her in there—in the inner chamber.

KEDDRA

(Dispassionately) She tried to kill me.

THE YOUNG PRIEST

It is so. Therefore I fastened her to the pillar with ropes.

MELNAK

Good.

[He goes into the room where NAWDIA is imprisoned. KEDDRA resumes her wondering inspection of the door in the gate. THE YOUNG PRIEST simply waits. Presently MELNAK returns.]

MELNAK

You have done well.

THE YOUNG PRIEST

(Deprecatingly) Lord.

MELNAK

(Advancing and scrutinizing THE YOUNG PRIEST*)*
You have seen the punishment of Jasper?

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THE YOUNG PRIEST

(Submissively) Yes, lord.

MELNAK

(Slowly and portentously)
Remember that I am the high priest—the lord. . . . . Do you understand? *(THE YOUNG PRIEST bows.)* Remember! *(THE YOUNG PRIEST again protests his devotion.)* Very well. Go into the hallway and wait. The priests are coming here. They must not come before I am warned.

THE YOUNG PRIEST

(Understandingly) I will guard.

[MELNAK makes a gesture of dismissal. THE YOUNG PRIEST bows and goes out at the right.

KEDDRA turns at length from her prolonged examination of the door in the great gate, to look at MELNAK. He looks no less intently at her. They stand thus. At length KEDDRA catches her hand to her breast in a characteristic gesture and shivers slightly.]

KEDDRA

Why have you done that? *(She indicates the door and JASPER'S punishment.)*

MELNAK

(Briefly) He would have killed you.

KEDDRA

(With a tired and puzzled sigh)
Ah . . . . I do not understand . . . . *(MELNAK turns away from her uncertainly.)*

KEDDRA

First my mother . . . . and then the priest. And I have heard . . . .

MELNAK

What?

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KEDDRA

I have heard that the other priests are planning together to kill me.

MELNAK

It is true.

KEDDRA

(Passionately)
But why? But why? Why are they so cruel? What have I ever done to them . . . . or to the gods?

MELNAK

(Watching her closely) They are afraid.

KEDDRA

But I have been afraid—down there in the valley—many times. I never wanted to—to hurt any one. And my mother has beaten me often when I did not bring back food enough, and I was afraid of her. Yet only since we came up here, has she been—like that.

MELNAK

Of what were you afraid in the valley?

KEDDRA

. . . . of the village boys . . . . and storms . . . . and the old basket-weaver.

MELNAK

(Chuckles sardonically) A basket-weaver! . . . .

KEDDRA

(Piteously)
And you—are you not also afraid, like the others?

MELNAK

I? *(He laughs ironically.)*

KEDDRA

What is it they are afraid of?

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MELNAK

(Astonished) What?

KEDDRA

Of what are they afraid?

MELNAK

(Contemptuously)
Little fool, they are afraid of the gods. They are afraid the blue gods will come and eat them.

KEDDRA

(Confused) But—I thought—

MELNAK

Well?

KEDDRA

(Hesitantly)
I have heard—that you said the gods are not coming, that it is a lie.

MELNAK

(Advancing upon her angrily) Who has told you that?

KEDDRA

(Timidly) Jasper.

MELNAK

(Biting his lip) Ah . . . .

KEDDRA

I—I also do not believe—

MELNAK

You are a fool!

KEDDRA

If the gods are not coming, why have you sent him to meet them? . . . . Besides—when the door was open, I have seen.

MELNAK

What have you seen?

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KEDDRA

That there was nothing. . . . . Must I die because of—of that nothing? Why are the priests afraid?

MELNAK

(Enigmatically)

Because they are fools and have dreamed wild dreams. They do not know what they are afraid of. Listen to me. It is better to be afraid of something, even of a basket-weaver, than to be afraid of Nothing. That is why they want you to die. And you will die, unless—

KEDDRA

Then the gods are not coming?

MELNAK

(Furiously)

I will kill you myself if you do not stop this babble! How do I know whether they are coming or not? *(Changing his tone)* It is not good to die.

*(*KEDDRA *shudders.)*

MELNAK

Were you happy in the valley?

KEDDRA

(Quickly) Yes, except—

MELNAK

Well?

KEDDRA

Except when—she beat me. *(She indicates the room wherein* NAWDIA *is imprisoned.)*

MELNAK

I have seen many people die. . . . . It is not good.

[KEDDRA looks fixedly at him. He comes closer and speaks subtly.]

Suppose you were not to die. . . . . Suppose the old woman never returned to the valley to beat you again.

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KEDDRA

Then they are not coming!—I knew! I knew!

MELNAK

(Furiously)
The plague strike you! I will send you to the priests myself! . . . . Whether the gods are coming or not, the priests demand a sacrifice—

KEDDRA

(Nodding) They are afraid. . . . .

MELNAK

(With meaning)
It is you . . . . they are searching for.

KEDDRA

(Piteously) And you—?

MELNAK

Suppose they did not find you. . . . .

KEDDRA

(With a flash of hope) Oh!

MELNAK

They have not seen you. They know only that there is a woman here . . . . whom they may sacrifice. . . . .

KEDDRA

I do not see—

MELNAK

(At her shoulder, almost whispering)
If I were to send them the other in your place . . . .?

KEDDRA

(Uncomprehendingly) The other—?

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MELNAK

(Softly)
The gods demand a sacrifice. They do not ask which victim is to be offered.

KEDDRA

(Recoiling) . . . . She is my mother!

MELNAK

She beats you. . . . . Remember . . . . she tried to kill you.

KEDDRA

No . . . . no.

MELNAK

Why did she bring you here? . . . . You are young, and life is good. To save herself—

KEDDRA

(Her face hardening) It is true.

MELNAK

Why should you die?

KEDDRA

. . . . She is—

MELNAK

She is old. A few hours more or less—what are they to her? Has she not beaten you?

(KEDDRA is silent)

MELNAK

What has she given you—beside curses?
(KEDDRA sobs once and is still)

MELNAK

(After a pause)
. . . . But for all this—there is a price.

KEDDRA

(Weakly)
No . . . . *(Tentatively)* I could not pay. . . . .

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MELNAK

I have not talked of money.

KEDDRA

Oh . . . . I do not know—I do not know!

MELNAK

I am the high priest—the lord. Only I can save you.

KEDDRA

. . . . And . . . . the price?

MELNAK

(Approaching her and stroking her with lascivious fingers)
I am old, but I am not so old—

KEDDRA

(Mechanically) Not so old—

MELNAK

Your mother—the other said—you were a virgin . . . .

[KEDDRA stands perfectly motionless. Then with a cry of shame, she springs away and stares at him as a bird looks at a serpent. There is a long silence. MELNAK does not move.]

KEDDRA

(In a low voice)
I would the gods did come that I might pray them . . . . oh!

THE YOUNG PRIEST

(Entering somewhat precipitantly from the right)
Lord!

MELNAK

(Turning sharply) Speak.

THE YOUNG PRIEST

The council has determined . . . . upon sacrifice. They are coming here.

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MELNAK

It is well. Return and wait. *(THE YOUNG PRIEST goes out. Silence.)*

MELNAK

You see .... they are coming..... There is little time—to choose.

KEDDRA

Never! Never!

MELNAK

(Cunningly)

Think .... they are coming with knives..... They will bind you, and bare your breasts..... And upon the altar .... bound. The fire first..... And no one hears the screaming for the thickness of the walls. Afterward—the knife.....

KEDDRA

(Weakly) Never.

MELNAK

The other—Nawdia—what has she given you? Curses only, and blows. And but now she strove to kill you. .... Being old, she will soon die. *(KEDDRA has not the strength to answer.)*

MELNAK

And the sunlight—never to see it again .... Nor the grasses waving— *(THE YOUNG PRIEST comes in again, frightened.)*

THE YOUNG PRIEST

Lord!—They are coming. They are like wild foxes—

MELNAK

Listen to me .... They must not enter yet.

THE YOUNG PRIEST

But they are stronger than I—

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MELNAK

It does not matter. You must delay them. Else—

[He reaches for his knife.

THE YOUNG PRIEST hesitates, and returns to his post. The noise of voices increases.]

MELNAK

(Rapidly)

There is little time. . . . . You must decide. Death is uglier than even I, is it not so?

[KEDDRA can not speak, and she was long ago beyond tears.]

They are coming—to kill you. They will bind you and slay you according to the ritual. It takes a long time. There is only a moment now. Speak—do you wish to live?

[KEDDRA stands exhausted by the conflict. Then in agony she bows her head.]

Very well. Keddra!

[He permits himself to touch her once. She quivers. There is a tumult in the hall.]

MELNAK

Ah!—They are come. Go into the room yonder. I will meet them here. I shall be on the platform there, where you can hear. Then when the time comes—you will know—send out the other one. And if she does not come— *(He gives her his knife.)* She is bound. Perhaps you will have to cut the ropes. Hurry! They are coming!

[He hurries KEDDRA, who moves as one moves in a nightmare, across the floor, up the steps to the platform, and thrusts her into the chamber to the left. Scarcely has he had time to adjust the drapery when, amid a babel of voices, the priests rush in at the opposite door. THE YOUNG PRIEST can hold them back no longer. MELNAK turns quickly and confronts them. He comes to the steps. The blue gods are fortunate in their priests. For if those mysterious beings are as wild and fearful as NAWDIA and the villagers believe, their servants have been aptly chosen. Or perhaps, as with MELNAK, constant service

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before the deities has warped and twisted the bodies of their priests, as fear and superstition have warped and twisted their souls.

There are six who come crowding in from the right-hand door, and they are all hideous with some uncouth bodily deformity. Five of them are clad in a deep red, almost of a blood color, so that their garments flame luridly in the light. One is in yellow. Two have drawn their knives, and hold them in their hands.

At first their voices make only a confused tumult, in which some few phrases, "Sacrifice! Sacrifice!" and "The gods! For the gods!", are now and then audible. But presently, as they see MELNAK motionless upon the steps, they bunch together just outside the door, and grow quieter, until at length it is possible to make out both the speeches and them who speak.

There is an instant's pause. Then the excitement breaks out again.]

THE HAIRY ONE

Kill! Kill!

THE CLUB-FOOTED ONE

Give us to sacrifice!

THE LEAN ONE

The gods will punish our neglect!

THE APE-LIKE ONE

They are stepping on the mountains!

THE CLUB-FOOTED ONE

(Beside himself with fear)

No! No! They are crushing out the villages like twigs. I have seen.

THE BLACK ONE

I have seen!

THE APE-LIKE ONE

The lights are blotted out!

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THE LIVID ONE

(Fiercely gesticulating at MELNAK*)*
Give us the woman!

ALL THE PRIESTS

Sacrifice! Sacrifice!

THE HAIRY ONE

(Stepping in front of his companions and thereby constituting himself their leader)
We have not time to wait. Give us the woman that we may make fitting sacrifice to the gods.

THE OTHER PRIESTS

Give her to us!—The gods!—Kill! Kill!

THE BLACK ONE

It is the law! The gods demand it!

MELNAK

(Slowly descending the steps, and folding his arms. Haughtily)
You are fools—children—frightened at a shadow. The gods are safe in their chambers. . . . . Go back.

THE LIVID ONE

Give us the woman!

MELNAK

(Abruptly) And if I do not—?

THE LIVID ONE

(Excitedly to his companions)
He is not a priest! He does not fear the gods!

THE CLUB-FOOTED ONE

Kill! Kill!

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THE HAIRY ONE

(Silencing the others)

Melnak, either give us the woman, or—

[He makes a gesture with his great hands like one strangling another.
The priests surge forward. The knives gleam in the light.]

MELNAK

(Who does not give way)

Listen to me. Is it not agreed that we have invented the gods to scare the villagers? What is this talk of the blue gods and their coming. . . . . There are no gods!

THE LEAN ONE

(Screaming) Blasphemy! Blasphemy!

THE CLUB-FOOTED ONE

He has denied the gods!

THE APE-LIKE ONE

They will kill us all because of him.

THE HAIRY ONE

He has lied to us. There are gods. We have seen them—

THE LIVID ONE

They have put out the lights of the village!

THE LEAN ONE

They have swallowed up the moon!

THE BLACK ONE

They are eating up the stars!

THE HAIRY ONE

The woman! The woman!

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ALL THE PRIESTS

Yes, yes—sacrifice! Sacrifice!

MELNAK

(Defiantly)

There are no gods!—And yet if you will—

[A great crash is heard outside. There is a moment's frozen silence. From the right-hand door, THE YOUNG PRIEST, his robe torn, his hair in disorder, his features distorted, rushes in and falls staggering to the floor. THE SIX PRIESTS turn to look at him. Doubt and scorn struggle in MELNAK's face.]

THE YOUNG PRIEST

(Gasping)

Lord—I have striven. . . . . But now—the outer wall has fallen . . . . into the valley.

[Tumult and confusion. As if by tacit consent, the priests close in on MELNAK.]

THE HAIRY ONE

(His hands feeling for MELNAK'S *throat)*

The woman!

THE OTHER PRIESTS

He has blasphemed!—The gods!—Kill! Kill!

MELNAK

(Struggling)

I—I—Let me go. I will get her!

[He frees himself and mounts the platform at the left, followed by THE HAIRY ONE. The other priests stand still in the center of the stage, casting fearful glances at the right-hand wall, and whispering uneasily among themselves. One steals over to the prostrate figure of THE YOUNG PRIEST.

Before MELNAK has more than mounted the platform, he stops and falls back, fear, rage, and consternation mingling in his face. The curtain of the door has been drawn, and in the doorway stands KEDDRA, pale, statuesque, and with a knife in her hands. She seems to have grown taller and older, and there is in her eyes a new look—the look of one who sees far off and important things. There is a movement among the priests.]

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KEDDRA

(Slowly, as though in a trance)
The sacrifice is ready . . . .

But I see . . . . I see . . . . It is the gods, Lord Melnak. O Priests, they are not your gods. . . . . You have made your gods of fear and hatred and ignorance. . . . . They are cowardly gods—like you. . . . . *(She looks slowly round the group.)* I go to meet—the Unknown Gods! And because the victim must be given willingly . . . . *(She raises both arms as if in supplication, extending them toward the great gate)* O Gods, accept the offering!

[She plunges the knife in her bosom, stands for a moment wide-eyed, and crumples slowly down upon the platform.]

MELNAK

(His face white, trembling in every limb)
There are—!

[Before he can finish, there is a sound as though a giant hand were knocking at the great gates of the wall. The priests turn in varying attitudes of terror; THE HAIRY ONE and one other stand upright, the others kneel or fall prostrate.]

THE HAIRY ONE

(In terror)
The gates that are never opened! The gates are opening!

[The knocking is heard again, ominously. MELNAK falls on his knees. The hand strikes a third time, and, as though that were the signal, slowly, majestically, the great gates swing open, and there pours from the opening an intense blue radiance which inundates the chamber with its splendor. The body of JASPER is seen in silhouette, lying limply across the railing of the balcony. But besides that there is nothing, save the radiance and the silence.]

MELNAK

(Bowing in confusion and terror)
The gods! The gods!

[Silence.
The light slowly fades to a milder texture, calm and healing as moonlight.]

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THE HAIRY ONE

(Taking a step toward the light, which bathes his forehead and transforms him into something nobler)

. . . . the gods?

THE LEAN ONE

(In an awed whisper)

What do you see?

THE HAIRY ONE

(Slowly and wonderingly)

. . . . nothing . . . .

CURTAIN

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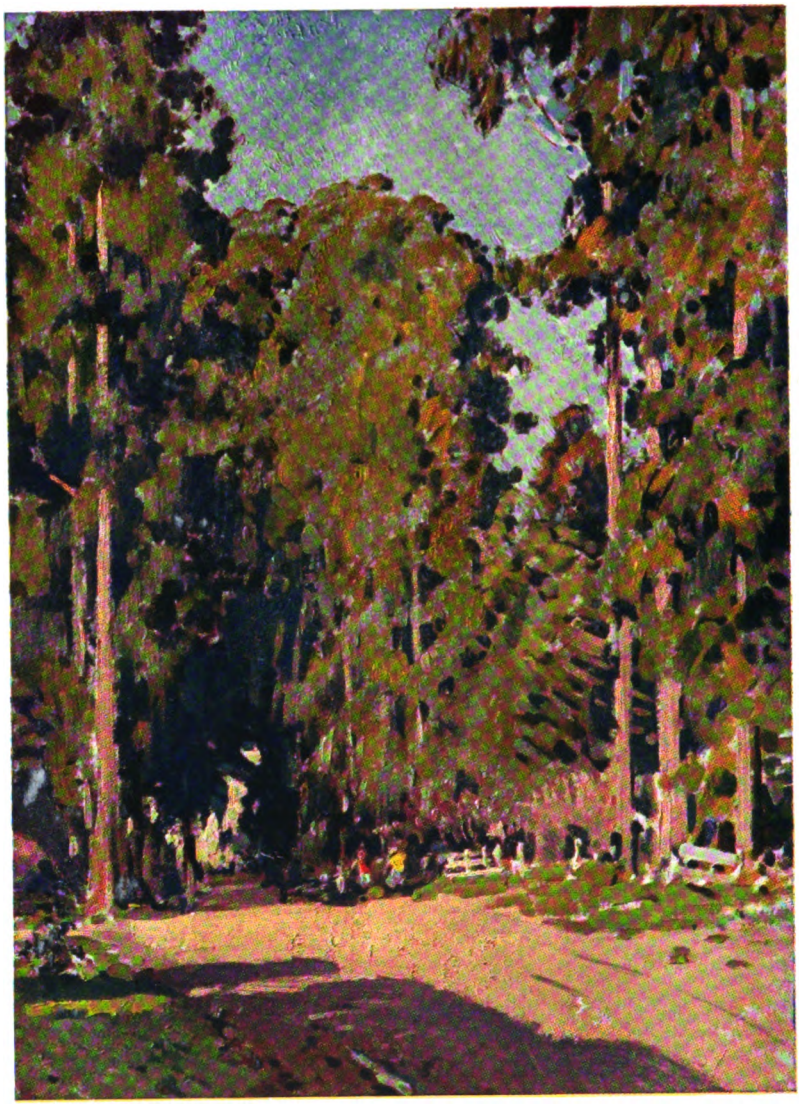

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THE AVENUE

From a painting by Mr. Eugen Neuhaus. The editors of the *Chronicle* wish to make grateful acknowledgment to the artist and to the Junior Class of Mills College for the courtesy which has enabled them to offer to the readers of the *Chronicle* this charming reproduction.

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RESEARCH VIEWED IN RELATION TO CRITICISM

B. H. LEHMAN

Taking Dr. Pepper's interesting essay on *The Place of the Critic* in the *Chronicle* for April as a point of departure, it is my intention to mark out as well as I can the more important aspects of research viewed in relation to criticism.

There is as yet, says Dr. Pepper, no science of aesthetics. It is consequently impossible to state, scientifically, the nature of beauty, or to say what qualities or characteristics make in any given case for beauty or ugliness. Of this condition there are, as Dr. Pepper puts it, two chief practical results. One is that the critic, whose business it is at the lowest to define and apply the standards of beauty, at the highest to define and illustrate the laws of beauty, finds himself in a dilemma. He must either pretend that there are laws and standards, or he must annihilate his function by confessing that though he criticize he has no more right to criticize than any other man. He must be a charlatan or nobody. In a dilemma the one safe place is between the horns. The critic may take himself in: actually he may escape being a nobody by being a self-deceived charlatan. He must be the first victim of his own quackery, imbued with faith in his own standards. Thus he escapes charlatanry. He achieves self-conceit.

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The second result is that until some fruitful aesthetic principle is found, "all work among the arts will be fragmentary, groping, and uncertain. Even historical work will be of doubtful value, doubtful in almost direct proportion to its minuteness, for history is far more than the recording of bare facts, dates, and circumstances; it is the recording of some of these in the interests of a governing purpose."

Now I venture to point out that the critic's choice does not lie between imposture and nonentity. When Spingarn, whom Dr. Pepper cites in this matter, says that criticism is the work of a "sensitive soul detailing his 'adventures among masterpieces'" he is by no means saying that the critic is "no nearer God than any man." The critic is nearer by the length of that word sensitive. Moreover he 'redreams the poet's dream.' This is actually a step more. It implies a creative power without necessarily an expressive power. When he has in addition any power of expression he replaces 'one work of art with another.' Now this is not in the ordinary sense to abdicate the function of critic. For in so dreaming the critic has not dropped to the level of the people; he has ascended to the pinnacle of the artist. In the interval till a science of aesthetics be born, the critic's choice lies, it seems to me, between a sham activity and an assured identification of his mind and eye for the moment with the mind and eye of the artist.

Furthermore, I take it to be axiomatic that the laws and standards of beauty will not be evolved in the mind of the critic but will be revealed by him as they exist in the artist and his work, even as they exist behind the artist in nature, in the smile of Nell Gwynne, in waters pallid under the dawn. It seems to me also that to reject a partial statement of what makes the beauty when a bluebird goes beneath the bough, or what when Vasili Andreich throws himself upon the freezing body of Nikita, until a law accounts for both at once, is aestheti-

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cally suicidal. It would be not unlike refusing to be cured of typhoid because man has never created life in a vacuum. For such measures the instincts to live and to enjoy beauty are too strong. And to say that the critic gives the standard and law to the artist as well as to the public, that there can be no genuine criticism until there is a science of aesthetics to state laws and set standards for both artist and public, is to say that there is no created beauty yet in all the world. "As education is to psychology, ... criticism would be to aesthetics." (*Chronicle,* 1921, p. 117.) Yet there was education of men—very good education—long before the applied science of education, or its basis the science of psychology. Was it more arrogant, more self-conceited in Aristotle to tutor the son of King Philip than it is in Dr. Laws, of Teachers' College, to coach the son of the great middleman, McChaos? I think not.

As a fact I have deep respect for science and the scientific method. I am appealing here for that method. I accept the fact that there exists no science of aesthetics and agree that in the arts nothing is more to be desired. In the interval, literary research will serve several great uses to the aesthetic judgment. In all those phases of the arts which have fallen into what we call historical perspective—which sometimes happens in the present tense—research first equips the critic with those facts which are necessary to him before he can identify himself with the artist and partially explain the beautiful in the work.

Of this value of research to criticism the history of the appreciation of Chaucer's poetry is an illustration. No one who has looked through Miss Spurgeon's *Five Hundred Years of Chaucer Criticism and Allusion* can have failed to be struck by the progress, *pari passu,* of aesthetic criticism with the increased learning of the ages. And generally the main lines of living and writing in the fourteenth century have been so clearly marked

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out that George Lyman Kittredge has been able to write a racy, vivid revelation of the human comedy as it enacted itself in Chaucer's time. Insight merely, love of Chaucer merely, immense personal resources merely could hardly have produced *Chaucer and His Poetry.* Behind it lie the vast arid areas of research, the labor—so dull to the outsider and to the indolent insider, so useless to the essentially unimaginative critic—labor carried on in little fields by numberless scholars with singleness of mind and well-disciplined habit. Francis James Child, with his equal gifts—Professor Kittredge would say greater gifts—could not have written such a book as this. He was himself, with respect to Chaucer, one of those workers in little fields who prepare the way. Professor Kittredge has had the advantage of that preparation, of his own manifold researches, of the researches of his students, and of contemporary scholars.

A second value of research to criticism is not a temporary but a permanent value. It prepares for the day when aesthetics shall have become a science. The object of research is to establish the true fact, the true date, the true circumstances, and it is to establish, so far as possible, all of these. When Dr. Pepper says "history is far more than the recording of bare facts, dates, and circumstances," every one must assent. When he adds "it is the recording of some of these in the interests of a governing purpose" all artists will agree, but all scientists will dissent. For what "governing purpose" conceived by the human mind, is a final concept? History as the record of kings and premiers has indeed been overset by history written under the aegis of the social sciences. Who shall say that "social laws" offer a legitimate governing purpose? Before the seas dry up men may see in history properly written a superbiological science. Science finds her facts first; her governing purpose afterward. The scientist can only record *all* facts in the interest of truth, whatever it may

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be. The law (or purpose) is derived from the data; no data can be arranged to support a law. For in the large view laws are as susceptible of adjustment as are hypotheses. When the facts do not fall in with the law, the law must be changed. The formula for this method is well known; we say, we test our generalizations by experience. Now it is obvious that if any significant data are false, if the researcher has for any reason failed to establish the true facts, the law or principle will not be a true one. When subsequently it is applied in another case, great damage may—and likely enough will —result.

And conversely, when the laws of beauty are once established, they can be applied, in the form of standards, only to what is truly known and understood. No science of aesthetics would have made much of Chaucer's melodies before Child and his pupils taught us the peculiarities of Chaucer's language. And were some one to find the fruitful unit of aesthetic value tonight, he will still not be able fully to explain what constituted the beauty of Beowulf till some researcher discover that simpler verse pattern which I firmly believe lurks in the ancient Teutonic meters. To the point I am here making it has already been replied that these researches are ancillary to other sciences, like philology. But to what is philology ancillary? To criticism.

It is worthy of further notice regarding the value of research to aesthetic criticism that the whole aesthetic problem is complicated by living ties with other human values. Take for example the line from Dante's *Paradiso* (III, 85) which Arnold gave currency in English minds (from a poor text),

> And his will is our peace.
> E la sua volontate è nostra pace.

It is a wonderful line; even to the iguorant ear it is swathed in beauty. But actually its beauty is deep, it

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is an integumental beauty. It requires that the artist listener know out of what profound conception of life the artist philosopher wrought. Behind that line lies a sense like our own of the struggle of life on our passionate and troubled planet, of the conflict, under dominion of will, of man with his world, and there lies there also a poignant wistful sense of escape quite foreign to us. To one seeing these, the line is not only swathed in beauty, it is informed with beauty. So says the critic, in partial function. But how does he come by the prerequisite facts: through the investigator who excavates Dante's doctrine of the will.

And literary research will do the critic and the aesthetician another service. One of the most profitable fields of historical research is that which deals with sources and origins. To know what Chaucer borrowed from Chrestien and Watriquet is curious information but of little importance; to know what he did with his borrowings is of great importance to the critic and may not inconceivably hold some hint of great aesthetic value. Shakespeare takes good lines from a chronicle, touches them, and they are very splendor. Ben Jonson, who is to be tracked everywhere in the snow of the classics, borrows the roses of Philostratus for his

"I sent thee late a rosy wreath";

and translates a few good lines into the sheer beauty of the second stanza of *Drink to me only with thine eyes.* Dryden translates a Latin epigram of Crashaw's about the marriage of Cana,

"The conscious water saw its god and blushed."

The suggestions of this sort of thing are multitudinous, revealing much to the critic who would if possible come at the characteristics of the sense of beauty as it varies from age to age. And sources, origins, and developments should be regarded as facts of a peculiarly significant

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kind for the aesthetician, not only after a science of aesthetics is achieved, but in the interval, as holding the possible germ of such a science.

At this point it is necessary to say with some particularity that I am holding no brief for dilettante criticism based upon a few facts. Until a science of aesthetics is established, critical problems must be handled not with less than all the facts but whenever possible with no less than all. There is, for example, an era in the history of English literature with respect to which critical judgments are at present more temporary than is necessary even without an absolute theory of aesthetic value. I refer to the period usually called Romantic.

For the labor spent upon the early nineteenth century—and indeed upon the later eighteenth—has been for the greater part superficial not deep-going, wide-glancing not thorough. The worker in this field seems to have desired "to interpret" something at once without establishing first the things to be interpreted. Upon this model, as a consequence, here and there persons who seek the stamp of the degree of doctor of philosophy without the discipline which is designed to deserve the stamp, turn at once to this period and announce that they are going to deal with ideas. As if ideas had no life in themselves but were what one made them! Ideas are of course capable of very precise, objective, though difficult statement,—or else they are not ideas. As if ideas had not sources, origins, and developments that require grubbing in dusty archives! But these considerations have been ignored. And these critics and scholars instead of digging go on shovelling smoke against the wind. The result is that much of the scholarly investigation and a very great part of the critical writings concerning the period I am at this moment regarding are almost useless for today and sure to be superseded tomorrow.

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What we must have before the critical problems of nineteenth century literature can be adequately handled is in the second place critics willing to take account of all data scientifically arrived at. But in the first place we must have that data. And we shall never have that data until it is understood that the nineteenth century offers not a field of escape from the rigors of research in the Middle Ages or the Elizabethan Era but an opportunity for the rigorous application of precisely those methods which have revealed to us the more distant periods. The uncovering of material is not easier because Coleridge is better known than Gower; it is more difficult because Coleridge had more books at hand and read them, too.

Nor is this the full case. All the labor—profitable and unprofitable—would not have been enough to prepare the field for the critic. Scholars have for various reasons, which need not be examined here, found their time preoccupied by those more removed eras which they have so brilliantly lighted. Now, with that labor largely done and with an increasing number of libraries suitable for research and schools fitted to train men to investigate, we may expect the data we need.

The problems which must be attacked by scholars are for the most part of a lively sort, and are, of course, not by any means all problems of sources and origins, though in a world in which people and things are born and die these naturally play an important part.

Another phase of the problem presents itself in the great question of what the ordinary "high-brow" and the ordinary "low-brow" read. We need to have investigated by painstaking, but not too solemn scholars, such periodicals as the *Edinburgh Review,* the *Critical Review,* the *Monthly Review,* the *Quarterly,* the *Athenaeum, Blackwoods, Frasers.* We shall want to know what lies hidden in every "popular" sheet, no less than what lies buried in Coleridge's *Watchman* or *The Friend.*

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The Poetical Annuals must give up their secrets. Best sellers, Joanna Baillie and Hannah More, good and bad, must be studied and understood. It is already clear from preliminary scientific surveys of the field what some of the more significant general results of all this research will be. Among them will be proof that the great figures of this era are seldom typical and that most are certainly not the pioneers in those phases in which they are the most striking personalities.

A capital illustration of this last point is afforded by Carlyle's doctrine of the hero. It is quite clear from documents now preparing that Carlyle not only did not originate this conception; in fact he was not even the first Englishman to borrow it from the Germans. Statements of the doctrine, variously remade, in Wordsworth, Coleridge, Shelley, Byron, Scott, Peacock, and others prove that, though Carlyle borrowed his statement direct from a German philosopher, the idea was already in the air in England. He was not the pioneer but the popularizer. And in that capacity he cannot be given full credit and full blame for the idea among English readers. Light thrown fully upon this question of hero-worship will ultimately make what was the specialist's concern the general public's benefit, inasmuch as no single idea is more vitally wrought into the texture of our present day life than this of leadership.

In the matter of ultimate use to politics, scholars must discover for us the full influence of Burke's thought through the writers of the early nineteenth century. We must have made clear to us not only the positive effects upon literature and through literature upon life of the French Revolution; but the negative effects. We have had some data on the question of what the Revolution made people think was true and what it made them do; we have had no data on the equally important and more significant question of what it made them think was not true and what it kept them from doing. Yet

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in this aspect of the case lies the explanation of most renegade conservatism of post-Revolutionary times.

We want hundreds of special investigations. We want, for example, a careful study of the use, the very presence of the sense of humor in the writers of the time. Upon this matter we have innumerable impressionistic judgments, and upon no matter is an impressionistic judgment so worthless for our purposes. We shall need, too, and presently, a very careful study of the size, shape, and equipment of theatres. Until we have this and understand its implications we shall never understand Browning's failure as a dramatist or Byron's. It is easy to say that Browning had not the dramatist's gifts; but the truth may very possibly be that with *his* gifts he could not write psychological drama to suit the personality and methods of an actor trained to match a theater the size and shape of a convention hall. We must have facts for all these ends.

And, finally, when thousands of minor critical problems have been focussed by the scholar and explained by the critic (who may of course both be resident in the same being) we shall perhaps be ready to solve the greatest problem presented by that period. It is the general problem of whether Wordsworth, Coleridge, Scott, Keats, Shelley, Byron gather up into themselves anything which can be called, even for convenience, a Romantic Movement. For bound up with this problem is the question: What was the characteristic quality of the sense of beauty in this period? For even when the laws of beauty are defined, the application of the standards—which is criticism—will require prerequisite knowledge of the era, of the writer, of the work.

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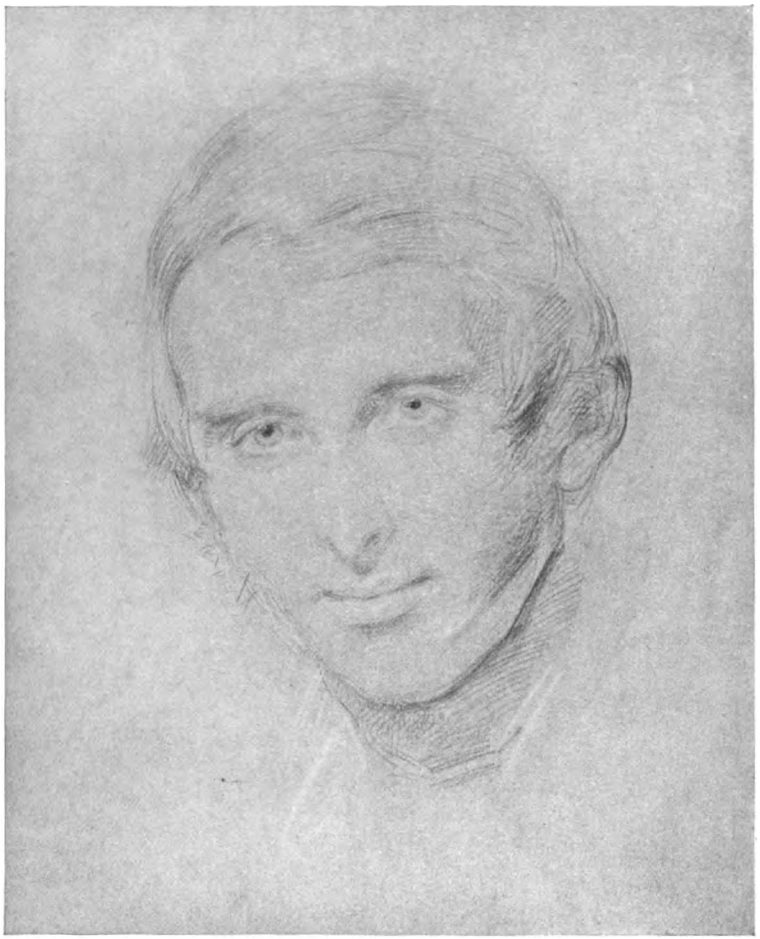

JOHN RUSKIN AS A YOUNG MAN

(From a pencil drawing on gray paper with high lights in white crayon, collection of Mr. K. Kojima.)

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RUSKIN'S SKETCHES

PERHAM W. NAHL

If a sepia drawing marked "Margate" had not been found during the cataloging of the Armes Collection, the *University Chronicle* would not have occasion to publish the accompanying illustrations.

The R in the lower right-hand corner of the Margate picture was the only mark by which to identify a work that in itself showed characteristics of a trained hand rapidly expressing a broad theme. The sketch might have been by Claude de Lorraine or Turner, but the R at once suggested Ruskin. Verification by comparison with other work by Ruskin established the authenticity of the drawing which, with the examples from the Kojima collection, also reproduced with this article, has been hitherto unpublished.

Ruskin's sketches are often made on transparent paper with pen and ink. The free handling suggests etching to a marked degree. With a few deft strokes he represents landscape, figures, clouds, or rocks with equal facility, and seemingly without difficulty.

The unfortunate clash between Ruskin and Whistler, in which the latter won his suit with a verdict of one farthing, has caused many to believe that Ruskin was in no sense of the word an artist.

Severely rigid regard for unessential detail in the drawings of the Victorian Era made for one of the worst periods in art history, in that the aesthetic sense of

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organization of form, color, and tone were often lost in a "tight" representation of prettiness and sentimentality.

The style of his time influenced Ruskin to such an extent that his finished drawings resemble those of Turner, whom he greatly admired. Whistler was such a powerful reactionary influence on the style of the time that Ruskin misunderstood him, while Ruskin's adherence to rigid realism incited contempt on the part of the none too charitable or sympathetic Whistler.

Real artists are always seeking truth, but few indeed recognize it when they see it. Ruskin was not an exception.

The last four lines of a letter, reproduced on page 221, show a natural rebellion against the period.

If Ruskin had realized that the "fragments which were useful to him and absurd to other people" were infinitely better than his own finished work, and that those "fragments" contained the element of art as expressed by all peoples in the best periods, he might have done notable work as an artist.

In the sketches at Margate and Tintagal he shows a remarkable feeling for form, composition, and simplicity of expression.

His hasty and carelessly written letters are sincere, and show his desire to help and teach. The second sheet of the letter on page 222 is really an extension assignment. His advice to the student is to be literal in chiaroscuro; he says nothing about the constructive design, radiation of lines, or beauty of the curves in the shell. This is quite in keeping with his own art work, his teachings, and his writings. He describes with sincerity, and with well chosen words gives an excellent mental image of color and form. Illustrative in type, one feels that his works lack aesthetic background, but these sketches, which he did not seem to consider of any merit,

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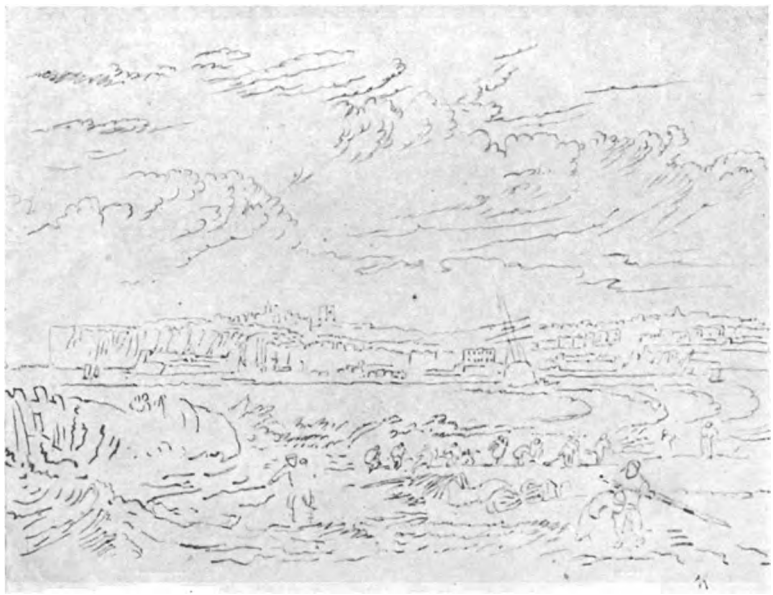

MARGATE—SEPIA DRAWING
(Armes Collection, University of California.)

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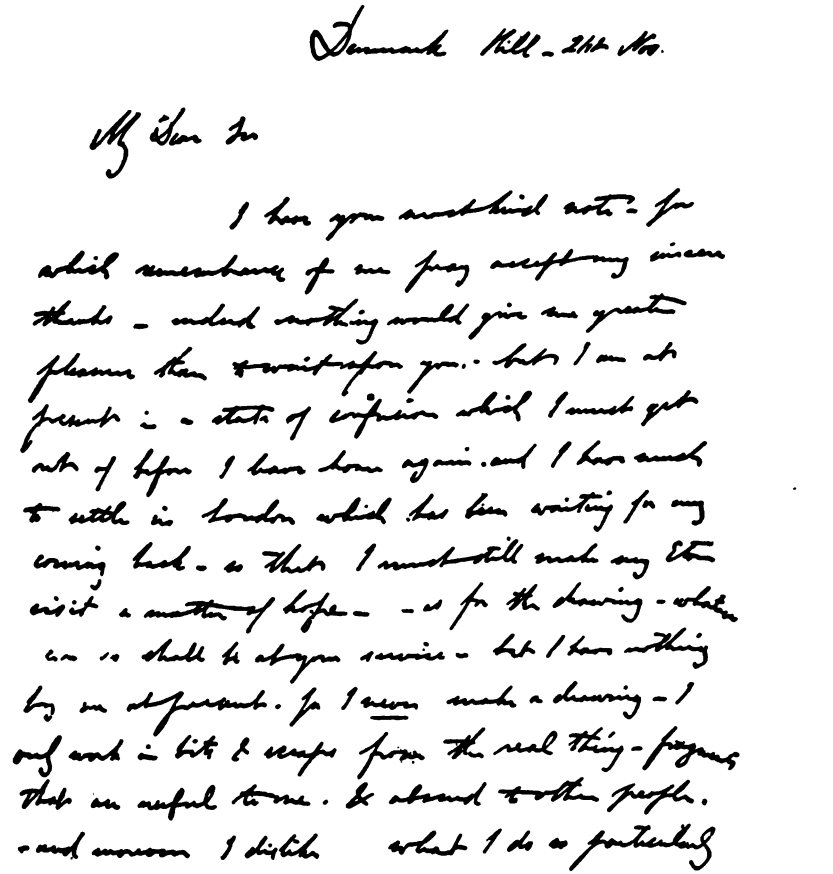

Denmark Hill—21st Nov.

My dear Sir

I have your most kind note—for which remembrance of me pray accept my sincere thanks—indeed nothing would give me greater pleasure than to wait upon you,—but I am at present in a state of confusion which I must get out of before I leave home again, and I have much to settle in London which has been waiting for my coming back—so that I must still make my Eton visit a matter of hope—as for the drawing—whatever I can do shall be at your service—but I have nothing by me at present, for I *never* make a drawing—I only work in bits & scraps from the real thing—fragments that are useful to me, & absurd to other people. —and moreover I dislike what I do so particularly

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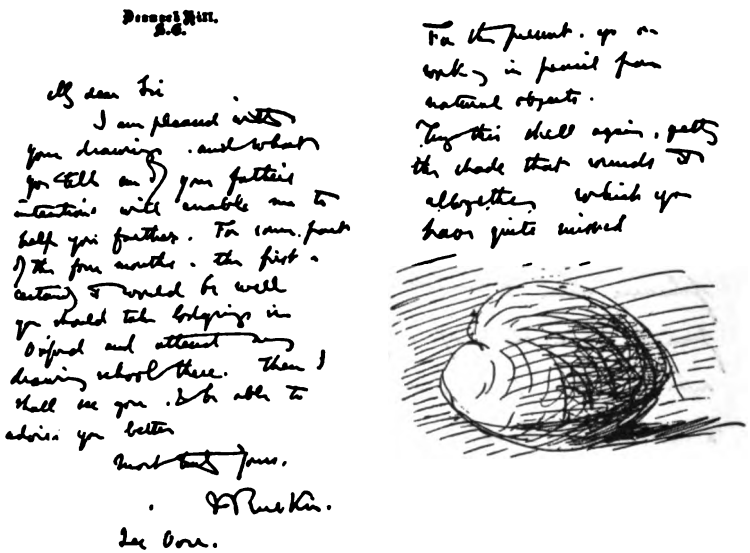
show the spirit of one who is an artist aesthetically as well as technically.



My dear Sir

I am pleased with your drawings and what you tell me of your father's intentions will enable me to help you farther. For some part of the four months—the first—certainly it would be well you should take lodgings in Oxford and attend my drawing school there. Then I shall see you, & be able to advise you better

Most truly yours,

J. Ruskin.

See over.

For the present, go on working in pencil from natural objects. Try this shell again getting the shade that rounds it altogether which you have quite missed

Unsuccessful art students often become critics and lecturers, and, as such, very few of them command any respect from artists. Ruskin was not only an excellent critic and writer, but his *Seven Lamps of Architecture,*

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TINTAGAL—SEPIA DRAWING
(Collection of Mr. K. Kojima.)

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Sesame and Lilies, and other books made a strong impression on the time, inducing many to study art in its various forms.

It is interesting to learn that Mr. Kojima, a Japanese banker, with whose permission most of these examples are reproduced, was so stimulated by Ruskin's writings that he studied the art of his native country and became an authority on Hiroshigo.

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FUNDAMENTAL PRINCIPLES

FRANK ORREN LOWDEN

These last few years have been crowded with big events. Thrones have crumbled, dynasties have fallen, new nations have been born, and the map of Europe has been redrawn. It is a period of mighty ferment. Old faiths are being challenged; ideas that had become axiomatic are being questioned; new and strange doctrines are in the air.

If it is a period of promise, it is also a time of peril. For we are likely to reject the old simply because it is old and to embrace the new simply because it is new. Therein our danger lies with reference to our own form of government.

Government is a problem which has always vexed mankind. How to reconcile the liberties of the individual with a government of sufficient energy to guarantee an orderly progress of society is a question which has engaged the attention of the thinkers of the centuries. This was the question which the revolutionary fathers had to answer. The colonists had won their independence in the War of the Revolution. At the same time they had won the admiration of the world. They at first believed that, freed from the English yoke, happiness, contentment, and prosperity would surely be theirs. They soon learned, however, that it was not enough to be free from foreign rule. They must establish, to take its place, a government of their own, with power sufficient to protect the liberties they had won. The confederation had failed. Confusion reigned. Jealousies

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between the new states were rampant. Disorder was the rule. The fruits of the Revolution seemed turning to ashes upon their lips. At this juncture, the Constitutional Convention met in Independence Hall. Measured by the results achieved, this was the most remarkable meeting of free men in the history of government. The Constitution they framed has been, in some sense, the model of every free government since formed. The framers of the new constitution were as familiar with the history of the governments of the past as we are today. They knew the story of Sparta, and of Athens, of Carthage, of Venice, and of Rome. They had seen these democracies, one after another, fail. Alexander Hamilton said:

> Such democracies have ever been spectacles of turbulence and contention; have ever been found incompatible with personal security or the rights of property, and have in general been as short in their lives as they have been violent in their deaths.

For centuries a democracy had been regarded by the statesmen of the world as nothing more than a beautiful dream. In the light of history, therefore, the framers of the Constitution went about to devise some form of government which should avoid at the same time the autocracy of the despot and the turbulence of the mob. They appreciated the merits of democracy but they saw its limitations. They were familiar, of course, with the town meetings of New England as established by the Plymouth Colony. Such meetings gave perfect expression to the democratic principle in government. They saw, too, that, in less than twenty years after its settlement, the Plymouth Colony had so expanded that delegates were selected from the several communities to represent the inhabitants. They saw that representative government must supplant a pure democracy the moment the community has become so large that all its members can not conveniently meet and discuss together the

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questions pertaining to their welfare. This idea of representative government was not an invention of the Pilgrim Fathers, but was borrowed from England.

England evolved this new principle in government before the Norman conquest. Speaking of the evolution of this principle, John Fiske says: "It was one of the greatest steps ever taken in the political history of mankind." Indeed, so important does he conceive it to be that he assigns the failure of the great political systems of Greece and Rome to its absence. He concludes:

> And we have seen how largely both these political failures were due to the absence of the principle of representation from the public life of Greece and Rome. The chief problem of civilization, from the political point of view, has always been how to secure concerted action among men on a great scale without sacrificing local independence. The ancient history of Europe shows that it is not possible to solve this problem without the aid of the principle of representation. Greece, until overcome by external force, sacredly maintained local self-government, but in securing permanent concert of action it was conspicuously unsuccessful. Rome secured concert of action on a gigantic scale, and transformed the thousand unconnected tribes and cities it conquered into an organized European world, but in doing this it went far towards extinguishing local self-government. The advent of the Teutons upon the scene seems therefore to have been necessary, if only to supply the indispensable element without which the dilemma of civilization could not be surmounted.

And so the Fathers made the principle of representative government the corner stone of the new Republic. Representative government is only the application to government of that principle which men have found by experience beneficial in other important affairs of life. Government daily becomes a more and more difficult and complex thing. Just as the citizen selects someone skilled in the law to represent him in a lawsuit, or someone skilled in medicine if his child is ill, so he ought to be permitted to select someone to represent him in his

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government. The representative can, if he so desires, keep in touch with the needs and real interests of those he represents. In intelligence and character, he is usually far above the average of his constituency. He has the great advantage of listening to and participating in debates upon any important question of policy. He has the privilege of proposing amendment if he favors the principle of a bill but objects to it in form. Therefore he has infinitely better opportunity to act intelligently and well than his constituents possibly can have. If the people are unable wisely to select from their own number one who will represent them honestly and faithfully, what possible chance have they to legislate wisely themselves? Upon questions of government, all know how unsafe it is to act upon first impressions. The representative, giving all his time to the consideration of public questions, has an opportunity to correct his impressions where they are wrong. The people have not time for the study necessary to the understanding of these questions. But their representative may come before the people to discuss with them the mooted question in all its bearings. He thus becomes an educational force. Indeed the self-respecting representative will seek to lead his constituents to correct conclusions upon questions of governmental policy, and will not be content to be a mere automatic register of hastily formed popular will.

Representative government is found wanting by some as in some mysterious way encroaching on the rights of the people. Just the opposite is true. If the citizen were not permitted to employ a lawyer or a physician, would he not complain of the loss of his rights? So, if he be not permitted to govern through a representative of his own choosing, but must govern himself directly, is he not equally suffering a diminution of liberty of action?

The Fathers saw, too, that a government extending over a vast territory could not endure unless it had

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vitality in all its parts. They knew that the greatest empire of history had fallen into ruin because of the gradual concentration of all power in Rome, with resulting atrophy in its remote members. They therefore wisely provided for the preservation of the several states, thus guaranteeing the continuance of local self-government. They created in fact "an indissoluble union of indestructible States." Having adopted the federal principle, they followed it to its logical end. They gave to the general government only such powers as were necessary to that government when acting for all in matters concerning all the people of all the states. All other powers of government were reserved to the states. Not only were the people represented in the national congress, but also the states themselves, for the upper house was composed exclusively of representatives of the states.

The federal principle in government had never been employed on so large a scale before. That it eminently succeeded in securing the rights and liberties of the people in even the remotest parts of the Union, no student of history will deny. It remained, however, to be proved whether a government so founded upon the federal principle possessed the vigor to preserve itself. This was the supreme issue in the Civil War. It is often said that this war was fought over slavery. This is not true. Slavery, it is true, precipitated the conflict; but the real issue was the preservation of the Union. Lincoln himself said in his first inaugural address: "I have no purpose directly or indirectly to interfere with the institution of slavery where it exists. I believe I have no lawful right to do so and I have no inclination to do so." Lincoln hated slavery, but greater than his hatred of slavery was his love of the Union. He accepted battle not to free the slave, but to save the Union. With sad heart but with steadfast courage, he faced the greatest war the world had ever seen to keep the flag of that

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Union flying in the sky. Lincoln saw that the federal principle, if it could be maintained, afforded to the world its largest hope for successful self-government upon an ever expanding scale.

In his speech at Gettysburg, Lincoln did not say: "Let us highly resolve that these dead shall not have died in vain; that this nation, under God, shall have a new birth of freedom, and that government of the people, by the people, for the people, shall not perish" *from the United States,* but "from the earth." His vision circled the globe. His great heart was beating in sympathy with mankind everywhere. But he knew that the surest way to help the world was to cherish our priceless heritage at home. He knew that the greatest service we could render to mankind was the preservation intact of the liberties and institutions that were peculiarly our own.

The federal principle has survived the test of armed rebellion. It is constantly confronted, however, with dangers of a more insidious kind. The federal government tends to encroach more and more upon the just prerogatives of the state. Bureaucracy at Washington is always alert to extend its power. It does not distinguish between those functions which pertain to the federal government and those which under our scheme of government belong exclusively to the state. Hitherto it has found the states jealous of their rights and capable of resisting this tendency. So the bureaucracies now seek to gain by bribes what they failed to gain by other means. During the great war, the federal government, in order to give unity to our efforts, undertook to do many things which the states had formerly done. It intruded into the administration of almost every field of state activity, such as education, employment, and public health. This resulted in a measure in the demoralization of state administrative agencies and therefore a lowering of the vitality of the state. The bureaucracies are now loath to give up this power. They seek to salve

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the wounded pride of the states by offers of large federal appropriations. Propaganda is being carried on day by day, under the guise of liberal contributions to the state, which will result in taking from the federal treasury hundreds of millions of dollars for objects which must remain the care of the state if the state is to remain an entity in our national system. The rapid movement toward centralization at Washington must be checked or the value of the federal principle will be dissipated forever.

The rapid expansion of our country under the Constitution has been possible because of the capacity of our people for self-government in their local communities. Wherever a group of men has found itself upon our frontier, some form of civil government has emerged at once. The little community was not content unless it was able to take care of itself. It has been the sturdy reliance of the people upon themselves that has enabled them to form self-governing states. But this self-reliance will be broken down as men come more and more to look to the federal government for aid.

One disturbing form that this lessening of self-reliance takes is the growing inability of the several communities and states to maintain order within their own borders. Successful self-government in even the smallest political unit is the only guaranty of successful self-government in a great country such as ours. There are many evidences that this type of government is breaking down in America. More and more frequently, the village, the town, the city, finds that it cannot maintain order without outside help. This is one of the gravest symptoms of the times. Whenever a town permits the due and orderly processes of government to be interrupted by a mob, that town is no longer an asset, but becomes a liability of the Republic. For multiply that town by a sufficient number and you have a situation in which only the army can rule. And no self-governing country was

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ever yet ruled successfully by force of arms. The primary duty of every political division, no matter how small, is to keep its own house in order. Men are too prone, in these days, when disorder threatens, to call for soldiers. Soldiers will always be needed and must be used, if they are the only means to maintain the law. For, at whatever cost, the law must remain supreme. In every nation, there must be someone or something supreme, to whom or to which all must yield obedience. In an empire, it is emperor. In a kingdom, it is king. In a republic, the only majesty is the majesty of the law. Whoever does violence to the law is laying profane hands upon the sovereignty of the people. Let it be remembered, however, that every time outside force is employed in any community, it is a confession of weakness in the very foundations of our institutions. The municipality must learn to govern itself when lawlessness appears.

The framers of the Constitution thus established, not a pure democracy, but a representative federal republic. But they were not content. They went even further and imposed limitations upon the government which they themselves had created. The Constitution proceeds upon the principle that all power originally resides in the people and that government therefore comes from below and not from above. Having in mind the experience of the republics of the past, the Fathers provided that only a part of the sovereign power of the people should be conferred upon the government. This is the great new principle which makes the Constitution of the United States the outstanding political document of time. Under that principle, the people reserved to themselves all of their sovereignty not so conferred upon the government. There were rights so precious that they would not entrust them to a government even of their own creation. Among these rights were the freedom of religious worship, the freedom of speech, and the freedom of the press. These rights are precious, not alone

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because the Constitution declared them so, but because they were seen to be the indispensable condition of any progressive civilization. Liberty-loving men had fought for more than a thousand years to secure these rights. Our forefathers saw that no government, whatever its form or name, could minister successfully to mankind unless these rights were put forever beyond the power of a majority. They also provided that no person should be "deprived of life, liberty, or property without due process of the law." They knew that no enlightened government could endure unless the life and liberty of the citizen were placed above mere numerical majorities. They knew, too, that, unless government secured to all its citizens the fruit of their toil, whether they were of the minority or the majority, men would cease to labor. So they provided that property should not be taken, even for public use, without just compensation. They knew that the arbitrary exercise of power, whether by one or by many, was equally obnoxious to mankind.

The original Constitution did not contain these express provisions, though its ablest exponents believed that they were implied therein. The very first Congress which met, however, regarded these rights, with others, so essential to our new government, that they submitted to the states amendments to the Constitution, which they believed would fix them forever beyond all question. These amendments are known as our "Bill of Rights." The principles which they announced were not discovered by the framers of the Constitution: they had been slowly and painfully won in a struggle which stretched over centuries.

Among the rights thus guarded is the right of property. I know it is becoming unpopular to speak of property. Men have come to discuss property as though it were a mere inert thing, unconnected with the life of man. Of course, property in itself can have no rights; but surely man can have rights in property, if such rights are essential to the welfare of mankind. Who can doubt

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that this is so? There has never been a civilization in the history of the world that did not have its beginning in the recognition of man's right to the product of his own labor, whether of the hand or brain.

There are those who speak of the nationalization of wealth as something new. It is the oldest thing in the history of the world. The savage tribes, in every land and clime, have been communists. Our own Indian tribes for centuries had nationalized their wealth. They enjoyed their lands and almost everything else in common. The prairies, over which they roamed, and which they claimed by tribal titles, remained but hunting grounds. They were able to maintain only a small population, and that population half the time in want. Take the Mississippi Valley, where I was born, and with which I have been familiar all my life. I myself saw much of it as the Indians had left it. The white man came—he came to make a home, which should be his and his children's forever. He came because the instinct of property was as strong in his breast as the instinct of life or liberty itself. In a half-century he has transformed this wilderness and has made it the granary of the world. It is dotted everywhere with happy homes.

From time to time men have dreamed of Utopia and have attempted to set it up. In Illinois at least two attempts were made. A French philanthropist sought to establish an ideal community, which he called Icaria. He selected one of the most beautiful and fruitful regions in the state. The property was to be held in common. The members of the community were supposedly specially fitted for community life. All the circumstances seemed to conspire to make a success of this dream. It failed—because man's perverseness prefers a humble vine and fig tree which he can call his own, to a share in a larger and more opulent community life. Again, at Bishop Hill, other dreamers sought to create an ideal community. They owned the property in common. It was a beautiful dream, but it did not come true.

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Private property must remain if civilization is to go on, and the more people who own property the higher will that civilization be. Our concern should be not to destroy private property, but to distribute it more widely and more equitably. The path must be kept open for the young man of brains to pass from laborer to owner of the farm. The way must be made clear for the worker in industry and commerce to have a fair share in the profits he creates. Men must be brought into more kindly relations with the raw materials and the forces of nature with which they work. This can be done only when men coöperate with one another in production, and thus come into better relations with one another. The great organizing genius at the head of an industry and the humblest worker in the mill are jointly laboring to produce something for the use or the happiness of mankind. Unless they both get satisfaction from their work, they both have failed. That satisfaction is impossible unless there is hearty good will and sympathy between them. We must contrive somehow to bring about that good will. The first step to this end is to make it certain that each is deriving from the joint product the just share of his contribution to it.

The principles expressed in the Bill of Rights are not true simply because the Constitution recites them. They are true because mankind, in its efforts for a better, more just society, has found that the maintenance of these principles is a condition of all human progress. The Constitution is sound because it recognizes and gives expression to these fundamental human rights.

A new political creed has arisen; not the rights of all men, but the rights of a majority are its basis. Its friends say that experience has shown that under the doctrine of equality of opportunity a minority of the people acquires more than its share of wealth. They say that the state should take this wealth away. In Russia, where they practice the new philosophy most consistently, they not only give this wealth to the state, but they

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kill its owners. They are not satisfied with equality of opportunity; they want equality in fact. They cannot have that equality if they permit men of superior imagination, and daring, and ability to be at large. The university, and college, and schoolhouse are enemies to equality in fact, and so their doors are closed. Religion inculcates moral precepts; it teaches that there are spiritual values which are higher than any which find expression in money terms. But to the disciples of Karl Marx, the only values are material values. Therefore, they batter down the churches, and seek to make this a godless world. The home has always been the buttress of morality and orderly society. The family is the real basis of a God-fearing state. And so, to destroy the home, they sought to nationalize their women.

The friends of this new creed deify brute force. In this respect they differ no whit from the disciples of the late much vaunted "Kultur" of Germany. The latter put their faith in the superiority of their army, while the former place theirs in the physical power of the majority to do what it will with the minority. Justice, righteousness, gentleness, are words as foreign to the language of the Bolshevists as to the language of the Militarists. Stripped of outward forms, the representatives of the German Empire could meet Lenine and Trotzky at Brest-Litovsk upon equal terms.

The framers of the Constitution knew, too, that men who have been given power usually seek to extend that power. They feared that the government would tend to encroach upon that portion of the sovereigu power of the people which the people had deliberately withheld from the government. If the new principle in government, of granting only a limited sovereignty to the government, were to be made effective, it was necessary to establish some body of men whose only concern should be to resist such encroachment. They therefore established the Supreme Court of the United States. They gave to that great tribunal a power never exercised

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before by any judicial body—the power to declare void any act of the legislative or executive departments of the government which transcended the power which the people had conferred. In order to raise that court above the clamor and passion of the hour, its members were to be appointed and to hold office for life. When once they had taken their oath of office, they were to be absolutely independent of all other departments of government. How well they have performed their part let history attest. That they have been subjected to severe criticism at times, no one will deny. But, that, upon the whole, they have stood against encroachment upon the fundamental rights which the people reserved unto themselves, I think all fair-minded men will concede. The Supreme Court of the United States is the real bulwark of the people's liberties, for it alone has the power to restrain the government within the bounds fixed by the people themselves. The Supreme Court may thwart the people's impulse of the moment, but only that it may give full effect to the deliberate will of the people as they themselves have expressed it in the fundamental law of the land.

Of late years there has been an effort on the part of some writers to discredit the framers of the Constitution. I think they might have been engaged upon a better task. However, even if all they have said about the framers of the Constitution is true, that is aside from the question. For the Constitution speaks for itself. Under it, humanity has had a larger opportunity and a greater happiness than under any other government in modern times. Under it more happy homes have flourished, a finer manhood and womanhood have been nourished, than under any government in the flood of time. The Constitution is worth preserving—not to perpetuate the fame of its founders—but to secure the continuance of "a government of laws, and not of men."*

* Address delivered at the fifty-third Charter Day exercises, March 23, 1921.

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THE SPIRIT OF SCHOLARSHIP

WALTER MORRIS HART

If one could pick up our state, carry it across the continent, and superimpose Lake Tahoe on the City of New York—turning a deaf ear to the protests of the citizens—our boundary line which now runs straight northward from the lake, would extend from New York to the extremity of Cape Cod; our Oregon boundary would cross Massachusetts and New Hampshire; our coast line would cross Vermont near the Canadian border and then meander southward through western New York, Pennsylvania, Maryland, West Virginia, Virginia, and North Carolina; our Mexican boundary would nearly coincide with the line dividing North from South Carolina. In a word, California would very nearly cover all of the Atlantic states, north and south, except Maine, South Carolina, Georgia, and Florida. Within this covered area are the universities of North Carolina and Virginia, the Catholic University of Washington, Johns Hopkins, Pennsylvania, Princeton, Columbia, the College of the City of New York, Cornell, Yale, Brown, Boston University, the Massachusetts Institute of Technology, and Harvard, together with the women's colleges, Goucher, Bryn Mawr, Hunter, Barnard, Vassar, Mt. Holyoke, Smith, Radcliffe, Wellesley; and a host of other institutions of respectable size and high standing. With all these the Atlantic seaboard attempts to meet its needs in the field of higher education. Many of these colleges

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and universities have excellent libraries, admirably equipped laboratories, and, as members of their faculties, scholars of world-wide reputation. These institutions are all, or nearly all, privately endowed; in every one of them, so far as I know, the student must pay a considerable tuition fee.

In California, for the same area, the state has undertaken to meet the needs of higher education; and it has declared that education shall be free. It is true that California is but sparsely populated as compared with the Atlantic states; but California is growing with amazing rapidity. And it is true, as every one knows, that there are in California privately endowed colleges and universities; but these, admirable as some of them are, are limited in number and in size; they can provide for but a small portion of the young men and young women who will desire a liberal or a professional education. Unless—and this is scarcely conceivable—unless there is a complete change of policy, the state must bear the main burden; the state must meet the ever-increasing expense. And it must reckon, too, on growth more rapid than that of the population, for new subjects and new types of training are being continually introduced, appealing to new classes and greater and greater numbers of students.

To provide for higher education in California the state conducts the University of California, a single institution but with many parts. Of these the oldest and largest is the so-called academic colleges at Berkeley, which is, we are told, already the largest university in the country. Many of its departments have in their necessary development thrust themselves out beyond the University walls to complete or supplement their work in many parts of the state. Thus an astronomer may continue his training in closer communion with the stars at Lick Observatory; an agriculturalist may continue his in closer communion with the soil at the University Farm at Davis, or at the Citrus Experiment Station at

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Riverside; a forester may take to the woods at the forestry stations at Santa Monica or elsewhere. The biologist may carry on his studies at the Scripps Institute at La Jolla. Medical and dental education must be completed in San Francisco. By means of the Division of University Extension, with its lectures, its class instruction, and its correspondence courses, many departments are enabled to give instruction, throughout the state, to a multitude of people who could not otherwise profit directly by the University.

Different from all these is the Southern Branch, which is, properly speaking, not a branch at all, but a replica or duplicate of certain parts of the academic colleges at Berkeley. It is, moreover, very closely related to these in all its departments and in its administration. In this great and growing center of population, a center with a distinguished character of its own, five hundred miles away from the northern center, this Southern Division of the University, under the able direction of Dr. Moore, is assured of a brilliant future.

Even though a partial enumeration like this be somewhat reminiscent of the catalogue of ships in Homer, it is yet our duty, from time to time, to remind ourselves of the true nature of the institution in which we all play our parts. Very few men have seen it all and no one is personally acquainted with all the individuals who labor in it.

The University of California is a complex institution, organized to meet demands of increasing complexity and rapidly increasing size. It will have shortly to provide for an enrollment much greater than the present one. No one knows just how this problem can be solved. Some look to a multitude of junior colleges for relief. Personally, I do not venture to hope for much aid from this source. I think it more likely that the junior colleges will rather function as missionary outposts, reaching out for new students, and sending a relatively small number

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of these to Berkeley. They will thus increase our Upper Division instead of decreasing our Lower Division. For the American tradition of the four years' liberal education in one institution will not die. And I do not think that we can venture to hope for aid from a multitude of four-year colleges. These, if they were worthy of the state, would require impossible outlays for the duplication of libraries and laboratories and for the employment of faculties of university grade.

The situation is a difficult one, and we may well rejoice that we have in our Board of Regents a group of men deeply interested in higher education in the state, learned, through long experience, in its special problems, and, utterly without self-seeking, devoted to its cause. And though they may seem to some of us to proceed at times too slowly, or by mere reluctant concessions rather than in the light of prophetic vision and far-reaching plans, yet I think that we may safely put our faith in their wise guidance and follow loyally where they lead. It is well to proceed cautiously when what is done is so hard to undo. And the slow pressure of actual public need is more likely than the most brilliant foresight to develop an institution perfectly adapted for all its forms of public service.

I have been reminding you that we are all at work in various small corners of one great whole. That whole, if one takes the wider view, is itself but a small corner. It too has its functions to perform as part of a still larger whole. Within the state it is part of the educational system; it must give all possible aid and advice to the public schools; it must concern itself with the training of teachers—and to this important function I wish presently to recur. Outside the state it is a member of the Association of State Universities and a member of the Association of American Universities. This latter is a smaller and more select body; there are only twenty-four members—the twelve state universities of California,

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Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, Ohio, Virginia, Wisconsin; and twelve privately endowed institutions—the Catholic University of America, Chicago, Clark, Columbia, Cornell, Harvard, Johns Hopkins, Northwestern, Pennsylvania, Princeton, Stanford, and Yale. Eligibility for membership in this Association is determined by the organization and facilities of the graduate school for research, and by the quality and amount of research actually carried on by faculty and students.

In many other ways are the threads of university life interwoven in the nation-wide web of higher education. There are, for example, the honor societies, like Phi Beta Kappa and Sigma Xi, with chapters in all the greater institutions. There are the many learned societies, scientific, historical, philological. There are associations of administrative officers—of recorders, of deans of summer sessions, directors of university extension, and the like. Some of the societies are international in their scope. And there is scarcely a scholar in any American university whose work does not in some way involve international contacts. He corresponds, perhaps, with foreign scholars; his books are reviewed in European journals; in his sabbatical years he works in foreign libraries, side by side with English or French or Italian colleagues. He cannot well avoid "entangling alliances," which, be it said, make in this case for mutual understanding and for peace; though these alone, manifestly, cannot insure peace.

This then is the world to which the University of California belongs. And all of us who are members of the University are citizens of that world, are members of the universal company of scholars. What does this mean for us and for California? What are the distinguishing characteristics of the scholar? What are his ideals? What is his way of life? What is the nature of the influence which he is likely to exert?

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Five hundred and fifty years ago Geoffrey Chaucer painted his immortal portrait of the scholar, riding along there with his fellow pilgrims on the road to Canterbury:

> His horse was lean as a rake, and *he* was not right fat, I trow, but looked hollow cheeked, and grave likewise. His little outer cloak was threadbare, for he had no worldly craft to beg office, and as yet had got him no benefice. He would rather have had at his bed's head twenty volumes of Aristotle and his philosophy, bound in red or black, than rich robes or a fiddle or gay psaltery. Albeit he was a philosopher, he had but little gold in his money-box! But all that he could get from his friends he spent on books or learning, and would pray diligently for the souls of them that gave him wherewith to stay at the schools. Of study he took most heed and care. Not a word spoke he more than was needful, and that little was formal and modest, in utterance short and quick, and full of high matter. All that he said tended toward moral virtue. Above all things he loved to learn and to teach.

Chaucer's description may require some translation into the terms of modern life, but it remains as true today as when it was written.

From the worldly point of view, from the point of view of the materialist, the figure of the scholar is *not* altogether attractive. How dreary and how drab the lean horse, the threadbare cloak, the preference of books, dull books, to musical instruments and fine clothes, the silence, the gravity, the love of learning and of teaching! Youth today, perhaps, will find more sympathetic the view of the medieval youth, of Aucassin, who had no desire to enter Paradise, because it was the destination of the people who wear "worn out mantles and old tattered habits." But this is the superficial view; it fails to take cognizance of the man within. As a matter of fact no life is less dull, less grey than the life of the scholar. It is full of romance, of adventure, of enthusiasm, of color, of fire, of deep and lasting satisfactions.

Our medieval scholar yearned chiefly to possess certain volumes of Aristotle, whom he regarded as the great

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authority in the whole realm of human knowledge. Respect for authority is the distinguishing characteristic of medieval scholarship, and here, indeed, is to be found a sharp contrast with the modern spirit. Today the spirit of scholarship is the spirit of research; which rejects, or at least distrusts authority, and, from the very nature of its being, must find out for itself. Less than a hundred years ago Emerson wrote, in that famous Phi Beta Kappa address on the American Scholar, "Meek young men grow up in libraries, believing it their duties to accept the views which Cicero, which Locke, which Bacon, have given; forgetful that Cicero, Locke, and Bacon were only young men in libraries when they wrote those books." Emerson's warning is still needed. But certainly it is less needed than it was in 1837; the scholar of today is independent; he accepts nothing on faith; he plans and conducts his own investigations. He is not subject to orders; he is not working at a task set by a taskmaster, in a field whose bounds have been determined by some one else. He is free—and he must be free—to follow the subject where the subject leads. He is self-active; he supplies, so to speak, his own fuel. His duties as an investigator are not thrust upon him from hour to hour or day to day. He must voluntarily and actively assume them; he must carry them upon his own shoulders. He is capable, at need, of plodding. George Meredith made one of his characters, a mountain climber, say, "To plod on and still to keep the passion fresh is the secret of all great work." The scholar possesses that secret; he plods willingly, cheerfully, because he has a goal. He may never reach the summit; but he knows that it is there, and that he is moving toward it, though he may sometimes lose the way, though some method of approach may, after years of trial, prove unpracticable. The scholar is an incorrigible optimist. He makes large plans and proceeds, slowly, persistently, steadily, to carry them out. He may not live to see them completed; they may

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be too vast for a single lifetime; but he is stimulated by the thought that there is so much to do.

I like to read Darwin's account of the preparation of his great work on *The Origin of Species:*

> When on board H.M.S. "Beagle" as naturalist, I was much struck with certain facts in the distribution of the organic beings inhabiting South America. . . . . These facts . . . . seemed to throw some light on the origin of species—that mystery of mysteries, as it had been called by one of our greatest philosophers. On my return home, it occurred to me, in 1837, that something might perhaps be made out of this question by patiently accumulating and reflecting on all sorts of facts which could possibly have any bearing on it. After five years' work I allowed myself to speculate on the subject, and drew up some short notes; these I enlarged in 1844 into a sketch of the conclusions which then seemed to me probable; from that period to the present day [1859] I have steadily pursued the same object.

It is hard to say which of the scholarly qualities here revealed is the most impressive—the breadth of view, the power of imagination which could conceive such a theory, the cautious hesitation in accepting it; or the splendid persistence through more than twenty years of accumulating, reflecting, speculating. There is, manifestly, no thought of glory, no thought of gain. Darwin did not persist because he hoped that he might some day become a millionaire. He was not thinking of himself at all, but only of that mystery of mysteries, the origin of species.

The true scholar is tolerant of those who oppose his views; he is more than tolerant; he welcomes opposition, knowing that each side may contribute something to the truth and that both sides will be stimulated by the contest to greater activity, greater keenness, greater persistence in research.

The true scholar delights to coöperate with his fellowmen. His special knowledge is ever at the service of his colleagues and of humanity everywhere. The idea of monopoly, the conception of "trade secrets" is foreign

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to his thought. Only the other day one of our greatest physicists, Robert Andrew Millikan, of the University of Chicago, turned over to the Extension Division of the University of California his very admirable correspondence course in physics, including his description of apparatus specially devised for a travelling physics laboratory. The Extension Divisions of the two universities teach, in part, in the same territory; they are, in a sense, rivals. But it is thoroughly characteristic that Dr. Millikan should be less interested in increasing the glory and revenue of his own institution than in spreading as widely as possible knowledge of the important science of physics.

The scholar is always a seeker after truth. He aims to tell the truth, the whole truth, and nothing but the truth. The disingenuous scholar is at once suspected, condemned, outlawed. His fate is that of an explorer who claims to have visited the North Pole and is convicted of falsehood. The scholar, furthermore, must distinguish between fact and conjecture, between what is known and what is surmised. He must—and this is a point of honor—he must distinguish with the utmost care between his own ideas and what he borrows from others.

The scholar finds his rewards in the work itself—mainly, perhaps, in the sense of progression which is most potent to make life livable. He seems to move from truth to truth, to enlarge the boundaries of knowledge for himself and for the world. This is solid achievement, no matter how small the group that recognizes it. Such achievement cannot be swept away like riches or glory or position; it is as permanent as anything in this world.

These then are some of the characteristics of the scholar—independence, initiative, patient persistence, unselfish devotion, tolerance, coöperation, veracity.

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These qualities are, naturally, not without their defects; the scholar is sometimes over-individualistic: he is willing to coöperate within his special field but not outside. Groups of scholars are sometimes ineffective because they have so little in common; they fail to reach conclusions quickly, fail to act together because of the lack of common knowledge. Individual scholars sometimes exercise too freely the privilege of indecision, as it has been called; in the habit of proceeding always with the utmost caution, of deciding nothing except in the light of sufficient evidence, they fail, now and again, to reach decisions when decisions are eminently necessary.

But these, after all, are minor defects; they are a small price to pay for the qualities which they accompany. The scholar is a valuable citizen. Society does well to encourage him and to provide for him the conditions most favorable for his development—facilities in the way of laboratories and libraries, so-called "leisure," which may be defined as time for the work which he is fitted and appointed to do; freedom to follow that work as the work demands; a living wage—he has forsworn the thought of riches; let us not force him to think of poverty.

The spirit of scholarship is a beneficent spirit. It is well that it should penetrate every phase of our life; it is particularly desirable that it should penetrate every phase of education. Much is made, today, of the horizontal lines separating the various stages of education one from another. There is much discussion of the points at which these lines should be drawn, of junior high schools, junior colleges, lower divisions, and upper divisions. It is well to remember that these lines of demarcation are as imaginary as the equator. There may, indeed, be such a thing as adolescence. But the individual does not recognize it; he passes by insensible degrees from youth to age. And so it is valuable to dwell

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sometimes on the essential unity of education. It is co-extensive with life; it persists from the cradle to the grave; and it is not confined to schools or colleges. From beginning to end the spirit of education should be the spirit of scholarship. In elementary studies, of course, we must make use of what has already been established; we must accept much on authority. But we can learn much for ourselves, also; we can set up at the very beginning habits of independence, of initiative, of veracity. A small boy who continually asked "Why?" was answered by his father only by other questions, which led him to find the truth for himself. He grew up delighting to use his mind as a strong man delights to use his body; and he delighted to watch the mental processes of others, as we all delight to watch games of physical skill and prowess. The child investigator will of course discover things that are not so; but even Darwin's conclusions have had to be revised by his successors. He will discover things already known; but he is establishing a habit.

The spirit of scholarship should have freer and freer play as the student progresses. There should be far more of it than there is today among the undergraduates in our universities. There is too much lecturing, too little self-activity on the part of students. Difference of opinion on the part of instructors is a corrective, however. One declares that you can discover in Shakespeace's plays Shakespeare's own view of life; another insists that it is only Shakespeare's characters that speak, never Shakespeare. The question can be decided only by further study of Shakespeare and the plays; the student must find out for himself; let us hope that he attempts to do so.

The investigations of graduate students are conducted very largely in the spirit of research. Graduate students are in contact with working scholars, in whom, I suppose,

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the spirit reaches its climax and is found in its purest form. It is this work in libraries and laboratories that determines the character of the university. By it the institution stands or falls. Without it the most skilful administration, the most carefully planned teaching, the most conscientious building of character, will, sooner or later, come to naught. You can not detach teaching from research. You must keep the contact somewhere; it is best to have it everywhere. It is best to have it in professional training; a really effective medical school must be primarily a school for research, in which every scholar is free to carry forward such investigation in his field as the field itself demands. The same thing holds true of agriculture. Separate so-called "practical" instruction from so-called "theoretical" instruction, from research, and your practical instruction will turn out mere rule-of-thumb men, capable only of doing in a mechanical way what they have been trained to do; incapable of meeting any new situation or of genuine progress in solving their own problems. Such "practical" instruction, too, will soon cease to be practical; it will not keep pace with progress; it will be, presently, behind the times.

We must have the spirit of scholarship in the training of doctors, in the training of farmers. Above all we must have it in the training of teachers. For them the closest possible association with the university, with its libraries, its laboratories, its great scholars, is salutary, is necessary.

The University of California is deeply concerned with the training of teachers. A careless observer, ignorant of the facts, might suppose that this important function was performed wholly by the Department of Education; that the effort put forth by that department alone represented the whole university effort in this field. But this is far from the truth. The intending high school teacher has no contact with the Department of Education until the beginning of the junior year, and has in all only

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fifteen out of one hundred and forty units in that department. Other departments, therefore, are the ones most concerned in teacher-training. It is they that provide for the intending teacher instruction in the subjects to be taught; you cannot well teach what you do not know. It is very desirable that this instruction in the subjects to be taught should be given by men who are steeped in the spirit of scholarship, whose interest in their work is kept living and contagious by the fact that they themselves are steadily widening the boundaries of human knowledge.

Our universities are the great creators and custodians of the spirit of scholarship. It is their special function to provide aid and comfort for all men who in their tasks have special need of that spirit. This function is more and more widely understood. University men, scholars, seemed to come to their own during the Great War. But that was only the acceleration of a movement which began long ago, and which still continues. Commercial houses, manufacturers of all sorts, continue to feel more and more the need of men trained in research. One of the many striking examples is the General Electric Company, at Schenectady, New York, which has employed at one time a score or more of young men, with the doctor's degree or its equivalent, for research in its laboratories. This same company has found it worth while to conduct a two-year course for college graduates, who are paid during this period a living wage, and who, on completing the course, are free to seek employment elsewhere if they so desire.

Public appreciation of the value of the spirit of scholarship is, as I have said, steadily increasing. To fail to appreciate its value for professional schools, and particularly for schools intended for the training of teachers, is, then, not only to be reactionary, but also to forego the benefits of an inspiring and easily accessible association.

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You of the Southern Branch, faculty and students, and we of the University in Berkeley, all of us, are concerned with education, all of us have enjoyed and now enjoy the supreme privilege of contact with the spirit of scholarship. Let us make it our business to see that that spirit—that spirit of independence, initiative, patient persistence, unselfish devotion, tolerance, coöperation, veracity—that that spirit shall grow and prosper to the end that it may inform and inspire every phase of our life within this state.*

* An address delivered before the Southern Branch of the University of California, on Charter Day, 1921.

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A TALE OF WANDERINGS

(Parts of ballad version from Homer's Odyssey)

ISAAC FLAGG

(The minstrel now silent, the guest, after praising the entertainment, reveals his name and home. He affirms there's no place like home.)

Alcinoüs, mighty in the land,
  This people's glorious king,
'Tis splendid, hearing such a bard
  Lift up his voice to sing.

Truly, I say, no lovelier time
  There is, than when good cheer
Holds every heart, and feasters sit
  The minstrel's lay to hear;

When viands plentiful and rare
  Weigh down the festal board,
And in each brimming cup the wine
  From wassail-bowl is pour'd.

That, to my way of thinking, seems
  A splendid thing.—But you
Ask for my tale, that so this heart
  Its sorrows may renew.

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What first, then, to your listening ear,
  What last shall I relate?
Woes to my lot has Heaven assign'd
  So many and so great!

Now first my name I will declare,
  That all may know it well,
And I, perchance safe home at last,
  As your guest-friend may dwell.

I am ULYSSES, through the world
  For wily arts renown'd,
Laertes' son; and to my fame
  The skies alone set bound.

My home is *Ithaca:* first to view
  Mount Neriton appears,
Above the sunny isle his fringe
  Of waving verdure rears.

More islands, close together set,
  The encircling azure holds:
Samê, Dulichium, and steep
  Zacynthus' thorny folds.

Low, by itself, my island lies,
  The farthest toward the west;
A rugged shore, but for a nurse
  Of goodly youths, the best.

No sight can I behold more sweet
  Than one's own native land.
Long in Calypso's ocean isle
  I paced thê lonely strand;

Long, Circê held me in her halls
  By spell of magic art:
Yet all those charms could never still
  This yearning of my heart.

So, nothing sweeter is than home,
  Though house and fields and gold
From home and parents far away
  In foreign land you hold.

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Well, let me now take up my tale
  Of wanderings fraught with woes,
Which, as I sail'd from Troy, it pleased
  The Almighty to impose.

* * * *

Driven from their proper course the voyagers touch at Lotus Land, whence they barely escape without loss.

Now, haply, I had come safely home,
  But Boreas came to mar:
Malea we fail'd to round, and past
  Cythêra drifted far.

Thence nine days o'er the fishy deep
  Our barks the North Wind bore,
Till on the tenth I sighted land,
  The Lotus-eaters' shore,

Eaters of flowery food. Fresh store
  Of water we drew there,
And on the beach my men made haste
  Their dinner to prepare.

After the meal, selecting two
  With herald, I sent the three
To ascertain what sort of men
  That country-folk might be.

Straightway they went, and came to speech
  With men of Lotus Land.
And for our comrades no ill turn
  The Lotus-eaters plann'd,

But offer'd them the fruit to taste
  Of lotus, honey-sweet.
Now whosoever had once learn'd
  That flowery food to eat,

Cared to return no longer, nor
  Send word his tale to tell,
But, all forgot, forever there
  In Lotus Land to dwell.

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I forced them, crying, to the ships
  And, dragging them on board,
Under the seats I tied them fast;
  Then pass'd the speedy word,

That the rest, taking ship, for start
  All things in order set,
Lest any, of lotus getting taste,
  The homeward voyage forget.

Promptly all sprang on board, and soon
  Seated in proper line
On the high thwarts, with bending blade
  They smote the frothy brine.

* * * *

Directed by the enchantress Circê, Ulysses, before he might sail for home, has made a preliminary voyage to the World of Shades. There he is enabled to converse with his mother's spirit.

* * * *

So saying, great Tiresias' soul
  Entered the realms of shade,
When his oracular tale was told.
  But I with threatening blade

Guarded my place and waited there,
  Until my mother came,
Drank of the blood, knew me straightway,
  And sadly did exclaim:

"My child, how come you to this dark
  And dismal region cold,
Still living! 'Tis hard for living men
  These limits to behold.

"Are you here, doom'd so long from Troy
  With ship and crew to roam?
Have you touch'd Ithaca not yet?
  Nor seen your wife and home?"

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"My mother," I replied, "sore need
  Led me to Hades' door,
The Theban seer's soul to consult,
  His guidance to implore.

"For not yet have I near'd the edge
  Of the Achaean land,
Not yet set foot on my own soil;
  But to far wanderings bann'd,

"Freighted with troubles, from the day
  When in Atrides' train
I made one of the battling throng
  On Ilium's steed-scarr'd plain.

"But tell me truly your own tale,
  The fate that laid you low:
In what shape the death-herald came?
  Or malady long and slow?

"Or did the archeress Artemis
  Beneficently send
One of her shafts, and bring your life
  To swift and painless end?

"And tell me of my father, too;
  Of the son I left. Do they
Still hold my sovereign right, or now
  Some other man? and they say

"Of me, He will return no more.
  What of my wedded wife?
What will she? What means she to do?
  Leads ever the same life?

"Staying with her son and guarding well
  Our household and estate?
Or fain now of Achaeans to wed
  The best and noblest mate?"

Then my good mother answering said:
  "Indeed she does remain
With patient heart in your own halls,
  While, sorrow-laden, wane

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"Her nights and days counted in tears.—
As yet, your royal claim
No man disputes, but undisturb'd
Telemachus in your name

"Reaps the imperial demesnes,
And, guest of honor, sits
At generous feasts, as rightful lord
And righteous judge befits;

"For all invite him in due turn.—
Your father, at the farm
Stays ever, comes not to town. No couch
Of rugs and fleeces warm

"Is his. In winter, meanly clad,
Within by the fire he lies
On the ashes, where the farm-hands sleep;
But, under summer skies

"And while luxuriant harvest-tide
Lingers, his lowly bed
At random on the vineyard slope
Of fallen leaves is spread.

"There lies he, nursing his great grief,
That you come not. Forlorn
Bitter old-age his portion is.—
Even so had I to mourn.

"Neither sure-aiming archeress sped
With her mild shafts my doom,
Nor hateful malady, whose slow pains
The wasting limbs consume.

"Loss of *thee*, great Ulysses, it was;
Thy counsel day by day,
Thy gentleness and thoughtful care,
Took my dear life away."

Such words she spoke; and fain was I,
By sudden passion sway'd,
To reach forth and take in my arms
My mother's ghostly shade.

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Thrice strove I, and within my grasp
  The phantom shape did seem:
Thrice from my hands it flew, as if
  A vapor or a dream.

Then rose a still more bitter pang
  Of anguish in my breast,
And once again in winged words
  Her spirit I address'd:

"My mother, why do you not wait
  My eager fond embrace?
That even in Hades both may win
  Chill mourning's sorry grace.

"Is this some image falsely sent
  By proud Persephonê,
To swell still more the groans that spring
  From my heart's agony?"

Answer'd she then: "Alas! my child
  Above all mortals tried,
Persephonê deceives thee not.
  But, once a man hath died,

"It is in nature so ordain'd,
  The bones and flesh no more
Are by the sinews close contain'd;
  But these the fire's fierce roar

"Conquers and brings to naught, when life
  Has left the fragile clay,
While, like a vision of night, the soul
  Takes wing and speeds away.

"But hasten! and toward the daylight strive,
  Nor for more tidings wait,
That in due time to your good wife
  These things you may relate."

Thus having said, my mother's soul
  To inmost Hades pass'd.
I to the ship repair'd, gave sign
  Stern-cable loose to cast,

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Board ship all hands; and they obey'd.—
  Our bark toward eastern seas
On Ocean's stream first light oars swept,
  Then the fair-following breeze.

Returning to Circê's isle, Ulysses and his men pay funeral honors there to their comrade Elpênor, who had met his death by falling from the palace-roof.

Passing from Ocean's circling flow
  Our galley reach'd the waves
Of the wide sea and Aea's isle,
  Where earliest Eos laves

Her dancing-lawns with saffron beam,
  Neighboring to sunrise land.
Arriving at that isle we beach'd
  Our good ship on the sand,

Stept forth upon the surf-lapt edge
  And on the sea-bank lay,
In welcome slumber to await
  The morning's blessed ray.

When now the morn shone forth, it was
  Elpênor's hour; and while
Some went to fetch his poor remains,
  We for a funeral-pile

Cut logs, and on a jutting point
  In tears we closed his doom.
Then, when his weapons and his form
  Were burnt, we raised a tomb

Crown'd with a stone, and fixt thereon,
  That future men might know,
The oar, with which among his mates
  In life he used to row.

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Circê warns Ulysses of perils that beset his homeward track.

Thus were we busied; nor meanwhile
  Had Circê fail'd to mark
Our coming from Hades, but right soon,
  Attired well, to our bark,

Duly attended, she came down.
  Bread her two handmaids bore,
Meats many, and sparkling ruddy wine;
  And standing at the shore

Amid our throng, in fervent tones
  The charming goddess said:
"Ah! ye perverse, who dared in life
  Dis' dark abode to tread;

"Ye of *two* deaths, when other men
  Have but one death to die!—
But come! take food now and drink wine
  Here, while this day speeds by;

"Then shall ye with the morrow's dawn
  For homeward voyage set sail.
And I will point the way, its each
  And every sign detail,

"To the end that, through no mischance
  Of folly fraught with bane.
Hinder'd on land or sea, ye may
  Unscathed your goal attain."

So said she; and we obey'd, and there
  Till evening shades prevail'd
Feasting we sate, with savory meats
  And ruddy wine regaled.

But when, as darkness fell, the rest
  Made by the ship their bed,
Myself from slumbering mates apart
  Taking my hand she led,

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Reclined beside me while I sate,
  Ask'd of that weird sojourn;
And in due order I told all.—
  Then Circê in her turn:

"So much for what is past. But now
  Listen, and ponder all
I am to tell you, which betimes
  Your genius will recall.

"First met will be the Sirens. These
  Bewitch all men who steer
Their way. Whoso unwittingly
  To that fell shore draws near

"And hears the Sirens' voice, for him
  His dear ones wait in vain.
No wife and children he makes glad
  Arriving home again,

"But with uncanny tuneful spell
  The Sirens chant his doom,
Where heaps of dead men's bones surround
  Their seat of meadowy bloom.

"Pull past that shore, but let your mates
  Their ears with soft wax fill,
Lest any hear. Yourself alone
  Shall listen if you will.

"Stand on the mast-block and command
  Your men to bind you there
Lash'd hand and foot unto the mast,
  That so, with rapture rare,

"You may enjoy the Sirens' song;
  Ordering, if you implore
To be loosed, that they stretch the cords
  Still tighter than before."

* * * *

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Departure from the isle of Circê. Ulysses hears the Sirens' song.

Circê had finish'd when the morn
  Beam'd forth from golden throne.
Her island path the enchantress clomb;
  I, to the ship alone

Descending, my companions roused
  To cast off from the shore;
And promptly they were seated all
  On the high thwarts once more,

Ready the frothy brine to smite,
  Myself, embarking last,
In troubled silence pondering sate.
  Now, a breeze following fast,

Filler of sails, a noble friend,
  By fair-hair'd Circê sent,
Dread goddess magical in song,
  Its cheery clamor lent.

Righting the tackle through the ship,
  We sate and waited now,
While wind and helmsman to straight course
  Held her unswerving prow.

Then to my whole ship's-company
  I spoke from anxious heart.
"Comrades, not to one only or two
  Behooves it to impart

"What, touching perils, unto me
  Circê in augury saith.
And I will tell it, that, knowing well,
  Either we die the death,

"Or of escape some way contrive.—
  The Sirens' voices sweet
First she enjoins us to beware
  And flower-bespangled seat.

"Only myself, the goddess said,
  Might listen to that song.
So you will bind me hand and foot
  With many cords and strong,

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"Here on the mast-block where I stand,
  Lash'd tightly to the mast.
Round it let the ropes'-ends be bent
  And knotted firm and fast.

"Then if I strive to burst my bonds
  And earnestly implore
To be loosed, you will stretch the cords
  Still tighter than before."

Each terror as to my mates I told,
  The speeding bark meanwhile
Into the restful region ran
  That girds the Sirens' isle,

For thither the favoring zephyr urged.
  And now the wind's breath fell,
Smooth calm spread wide; some spirit will'd
  The crested waves to quell.

Our sails the men stood up and furl'd,
  In the ship's hollow laid;
Then, sitting, glassy waters smote,
  Flung white by polish'd blade.

I, taking a great ball of wax,
  Cutting it up piecemeal,
Squeezed, work'd it well in my strong hands,
  Till soon it came to feel

Right soft and warm with help of sun;
  Then walk'd from stem to stern,
Plugg'd soundly all my comrades' ears,
  Each man in proper turn.

Next, on the mast-block when I stood,
  They bound me to the mast,
Round it the ropes'-ends tightly bent
  And knotted firm and fast,

And, once more seated, plied their oars.—
  When now, fast running by,
No farther stood we from the land
  Than one can hear a cry,

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The Siren-pair fail'd not to mark
  Their flowery strand along
A rushing keel not far; but straight
  Struck up their clear-toned song.

Hither, O hither sailing turn,
  This way your galley steer,
Ulysses glorious and great,
  Our melody to hear.

For never mortal this way sails
  And presses farther still,
Ere from our throats strains honey-sweet
  His charmëd senses fill;

But all-enraptured moves he hence
  And wiser than before,
For we know all that Greeks endured
  On Troja's blood-stain'd shore.

How with wild waves they strove, we know,
  By tide and tempest whirl'd.
We know all things and everything
  That's done in the wide world.

So in enchanting tones they sang.
  My soul craved of the glee,
And frowning and nodding to my men
  I signed to set me free.

But, forward leaning, they row'd on,
  While, quickly rising, two,
Eurylochus and Perimedes, strain'd
  The yielding cords anew.—

These safely pass'd, when linger'd now
  Of Siren voice no sound,
They from their ears the wax removed,
  Me from the mast unbound.

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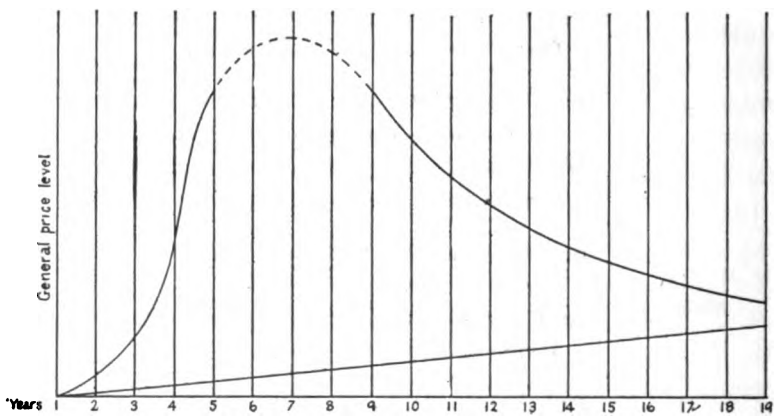
THE PROBABLE COURSE OF PRICES

A SKETCH OF INFLATION AND DEFLATION

CARL C. PLEHN

THE WAVE OF INFLATION AND DEFLATION

To the casual observer, a wave breaking on the seashore appears first as a sharp rise of water, followed by a breaking of the crest and then by a long steady fall to the beach level. Close observation would show that



GRAPH SHOWING THE THEORETICAL OR TYPICAL MOVEMENT OF PRICES CONSEQUENT ON INFLATION

Explanation: The curve indicates the general trend only. The actual price movements are never so smooth. The broken part of the line indicates the period during which extremely violent fluctuations are likely to occur. The sloping straight line indicates the ultimate level when the effect of inflation is past.

a particle of matter floating on the surface would rise and fall with many successive waves, now approaching and now receding from the beach, even though it might ultimately wash ashore. But it requires only a slight exercise of the imagination to picture the course of a

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particle of floating matter assumed to follow the top of the water of a single wave and to move steadily, from a point at dead sea level some distance from the shore, as the wave rises, breaks, and descends upon the beach, to the end of the run of the wave onto the beach. Such a particle of matter we might imagine would follow a path rising sharply, in the smooth water before the crest is formed, bobbing violently up and down as the crest breaks, and then taking a gradually descending path to the beach. The path of such a particle would probably be like the broken curve in the diagram at the beginning of this sketch. Such a curve represents approximately the typical movement of average commodity prices in a period of inflation and deflation. If, instead of following with the eye of imagination the path of a single particle on the surface of our wave, we now try to follow the paths of a thousand or more floating objects, all moving shoreward on one wave, we would imagine them moving somewhat in unison, but some would be rising faster than others, some higher than others, and on the crest of the wave there would be much confusion of movements, some bobbing up and down rapidly, others perhaps going over the crest in the least broken waters on a smooth path. On the sea side, and afterwards on the land side, of the breaking crest, these many particles would move together, not necessarily at the same rate upward at first and then downward, but yet with a perceptible degree of uniformity. But at the crest, in the swirl of breaking waters, we should have difficulty in realizing that any uniform movement prevailed. We might readily grant that all the particles were higher than at the starting point, but some must, at that moment when the wave broke, have been much higher than others.

Such a movement of many particles of matter floating on or near the surface of a breaking wave is a fair analogy to the movement of the prices of our many commodities during the rise and fall occasioned by inflation

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and deflation. The analogy fails, of course, because in the wave at sea there is procession and recession, floating particles of matter, especially while on the crest, whirl about and move, now toward the beach, now toward the sea. But though prices rise or fall, time moves steadily forward, yesterday never becomes today. There is no recession in economic movements.

Last summer, the summer of 1920, prices reached the crest of the wave of inflation, the wave broke, and all through this winter of our discontent we have been in the broken, swirling waters at the crest of the inflation wave. Soon we shall, if the signs be read aright, find prices beginning to descend from the sharp angle at the bottom of the broken crest, on the long slow run to the beach. If no new storms arise, our floating particles will eventually, as of yore, rise and fall with the normal tides.

It will be some time yet before we attain that distance from the confusion of the breaking of prices which will give us the perspective necessary to trace the exact course, and to say just where the crest went. We know, however, that the break began early in 1920, that there has been great confusion ever since, and that a somewhat lower level has been reached. In all probability the descent will now be steady but gradual and will continue for many years to come.

The forecast is that, now the first sharp break is over, prices will gradually fall for some ten or twelve years to a new level of partial equilibrium; that the old level of 1914 will be reached again is very doubtful; that the level of prices at the time of the entry of the United States into the war (i.e., April, 1917, halfway to the top) will be reached in a year or two from now is rather probable.

This is an exceedingly bold prophecy and he who makes it assumes a frightful risk. It is therefore necessary to show whereon it is based.

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To forecast the movements in the price of any *one* product for a period longer than a few months has seldom been found possible and presents difficulties which may never be overcome. It is obvious that among those difficulties is the fact that common knowledge of the possible course of the price of one commodity would at once start movements which would change that course. With such a handicap no calculation is possible.

But although we cannot forecast the price of any one commodity, the art of economics today furnishes the possibility of forecasting the probable course of the general level of *all* prices for several years in the future. A nurseryman cannot tell how large any *one* of his young trees will grow to be in three years. But he may safely make a contract to deliver, three years hence, a *thousand* trees of a specified average size, provided, he has a record of experience long enough to be a safe guide as to the probable growth of his trees. The only risk he runs is that of some unforeseeable disease, or of a plague of insects, or of some other disaster affecting a large part of his garden.

We possess today records of experience of many nations, covering the movement of prices for several hundred years, together with records of the established causes of those movements. The early records are scant and sporadic, so that it is difficult to fix the date when they began to be significantly trustworthy. But beginning not less than three hundred years ago the records have grown increasingly accurate, and the art of measuring the movement of prices and the forces causing those movements has been so perfected, that today we are currently informed, with a fair degree of accuracy, what the level of prices was in each commercial country each week or each month. Excellent records run back thirty years. What is perhaps more important still is that we are able to say approximately what causes brought about each change and how each of the forces at work contributed to the change.

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THE MEANING OF THE TERM "GENERAL LEVEL OF PRICES"

I have been so often misunderstood in speaking of the general level of prices and of a rise or fall therein, that a word of warning seems necessary at the very start.

A rise or fall in the general level of prices is not a vertical change in all prices. It is almost certain that a sharp fall in the price of some one commodity, or even of a large line of commodities, will, by setting free funds to buy other commodities, cause some of those others to rise in price, and it not infrequently occurs that the general level of prices remains stationary at a time when many individual commodities are fluctuating greatly.

The reason why a fall in the prices of one set of articles often has no effect upon the general level is easily shown by a homely illustration. A housewife has in her household budget, let us say, $100 a month for food. If potatoes have been dear and go down, she generally buys, with the money she saves on potatoes, some other foods which she went without before. The effect of this, if many housewives do the same, is to raise the price of foods for which there had been but little demand. The fall in potatoes is thus offset and may, even, be counteracted.

In the spring of 1920 the department stores of New York advertised a cut of 25 per cent on everything they carried. But the index numbers of prices hardly flickered. In the fall of 1920, within a period of eight days, important cuts were announced in woolen goods (Sept. 13), in cotton goods (Sept. 20), and in Ford automobiles (Sept. 21). Thereupon the papers announced that "the return of pre-war prices has come." Yet railroad rates had but recently been raised, and wage adjustments increasing the cost of production of many commodities had but recently been completed and more were even then in the making. Price reductions are often announced in full page advertisements and receive attention in the news and editorial columns, but price advances are often

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hidden in the fine print in the market quotations on the inside of the back sheet of the daily newspaper. As a matter of fact, it is still a long, long way to pre-war prices.

The facts that we shall pass in review warrant the conclusion that the general level of prices will not fall so fast as it rose. But let no one conclude from what is said about the general level that all prices, or necessarily any one price, will follow the general movement exactly. Some will fall a great deal more, and many will rise.

WAR, INSURRECTION, AND CRISES BARRED

In making a forecast of the movement of prices during the next few years, I shall assume that international war on a large scale and domestic war or disturbances amounting thereto, and widespread economic crises are not going to occur. No doubt the wish is father to the thought and we hope that they will not occur. But they must be barred from the calculation because, although we know that war will raise prices, and that a crisis will tend to lower them temporarily, there is no way of estimating the amount of change they will cause.

IT IS IMPROBABLE THAT WE SHALL HAVE A CRISIS

The probability or improbability that we shall have war within the next few years is a matter upon which I am not equipped to make a forecast. But the probability of a crisis is an easier matter upon which to form an intelligent opinion. A review of the data bearing on the probability of a crisis will cover many items pertinent to our main inquiry.

The writers of the financial pages of the daily press, and some who should be better informed, speak fluently of "the crisis which inevitably follows a war." The American Bankers' Association appointed a committee in May, 1920, to confer with the Federal Reserve Board to formulate measures "to save the nation from the consequences of an economic crisis." It appears that

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some people expected a crisis, although skepticism was also expressed. The prevalence of an opinion that a crisis was impending, lead to precautionary measures which may very well have been effective enough to prevent its coming.

Before going on it may be necessary to define terms. Crisis is a general term applied to a state of business involving immediate liquidation of debts. A crisis may involve only the liquidation of the debts of those who are over-extended, or it may be widespread, and accompanied by failures of sound enterprises as well as of the unsound. When a crisis comes on with a rush, and an unreasoning fear prompts the calling of loans in all directions, that stage of the crisis is called a panic. We may have a crisis without any very marked panic. Or we may have a panic which is soon over without the more serious effects which sometimes occur. There is usually a panic at the beginning of a war and there is apt to be one after every defeat of the arms during a war. A crisis usually marks the beginning of a period of industrial depression, of low prices, dull business, unemployment, and low wages. Recovery from this state leads to a period of general prosperity, culminating usually in a brief period of intense business activity, followed by a new crisis. The three stages, crisis, depression, and prosperity, constitute together the economic cycle, representable by a wave-like curve, which is regarded as the result of some constantly acting forces, the precise nature of which is not fully understood.

The cause of a panic is sheer fright, usually aroused by some sudden break in credit. The causes of crises have never been twice alike. Thus that of 1873 was over-extension of railroad building, and of 1893 was the cost and difficulty of maintaining the gold standard. But behind every crisis there is to be found the same set of general conditions. These are that capital and labor have been diverted into activities which fail to meet a

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real need and which are conducted on borrowed money, the repayment of which becomes difficult.

The assumption that a war is followed by a crisis is not supported by any historical evidence. The United States has waged six major wars, and has won them all. Not one of the first five was followed by a marked crisis within a period shorter than eight years. Yet the United States has had or has shared in at least eleven crises. No one of the able annalists of these crises has set down war as an immediate cause.

FEW OF THE PRECEDENT SYMPTOMS OF A CRISIS ARE APPARENT NOW

The symptoms of the coming of a crisis are well known. But unfortunately for prophecy, many of them are not discernible until the crisis is about to break. They are:

Symptom 1: An abnormal activity in floating new enterprises, and boldness of speculation.

Comment: At the close of the war business men at first assumed that there would be a collapse of prices and marked time waiting for it to come. Then the Federal Reserve Board, Professor Irving Fisher, and others, sent out warnings that there could be no fall in prices until the monetary circulation, which had been enormously swollen during the war, was reduced, or production largely increased, or both, and that neither of these events would occur very soon. Within a few months business was resumed. Evidence will be presented below showing that during the past two years production has not increased largely and that the circulation has not been decreased.

The stock exchange, far from being abnormally excited, has been dull for the last year. The shares of stocks sold ran as follows: 1915, 173 million; 1916, 243 million; 1917, 185 million; 1918, 144 million; 1919, 318 million, and for 1920, 224 million. Speculation, far from being bold, is cautious. There is a decided preference

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for bonds and preferred shares, and the speculative common stocks are very much in the background.

Symptom 2: A sharp rise in investment values, especially in the price of real estate. This seems to be occasioned by the fact that the accumulated profits and savings of the preceding period of prosperity are seeking investment, and people are in a mood made optimistic by the general prosperity. At the same time the rate of interest is low or is falling.

Comment: Today interest rates are high and investment values relatively low. There was for a time a sharp rise in the value of real estate amounting to a land boom in some of the Middle West states. It must be remembered that all prices had been artificially inflated, and that farm yields and rents had shared in this. The capitalized value of this increase in earnings would naturally advance. It is not at all certain that the price of real estate is now up to the pre-war level if the fifty-cent dollars in which it is expressed are reduced to the one-hundred-cent dollars of before the war.

Symptom 3: A rapid increase in luxury. Luxurious expenditure and extravagance characterize the close of every period of prosperity and are regarded as one of the most reliable symptoms of the coming of a crisis. The connection is that luxury diverts capital and labor into blind alleys and extravagance leads them into channels which may quickly dry up. Those who waste their substance in riotous living eventually stop spending. Generally speaking luxury brings satiety and a quickly dying demand.

Comment: It is common opinion that the year 1919 and part of 1920 was a period of riotous extravagance. The facts are not susceptible of statistical measurement. But we may accept opinion and admit that there was cause for alarm in this symptom. As possibly mitigating this conclusion, it may be pointed out that luxury is a matter of opinion, and that it is an open question whether

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a worker whose wages have advanced and who spends his surplus on a gold watch, a piano, or an automobile, is indulging in luxury or only asserting his change of economic status and assuming a new standard of living. Even so, whether luxury or not, much of the recent expenditure was not in lines in which demand was permanent or recurrent. Once the watch, piano, or automobile longed for is acquired, the demand of that individual ceases or is shifted to other lines. Hence, if dealers and manufacturers prepare for a permanent trade on the basis of these changes of status demand, they may find those demands dry up just as surely as if they had been luxury demands. This is just what happened in the winter of 1920–21, when we had what was called the "buyers' strike."

Even the non-luxury demands of a post-war period may have a like effect. To get 4,000,000 soldiers into uniform, and then to refit their broadened shoulders into citizens' clothing taxed the woolen industry to the top of its capacity. But once that task was finished, the industry fell back on its old job of replacing clothing that wears out. To restock and refurnish household and other supplies, and stocks that had run down during the war, tested the capacity of many lines of industry. On the other hand, the high prices that prevailed made it necessary for many to go slow in their buying, so that the normal demand will stay large for a time.

Of all the symptoms, this one was most clearly apparent in 1920. But its menace was lessened by the following considerations. In many lines the temporary character of the demand was foreseen and prepared for. In those lines profits had been large enough to tide the industry over to the new normal. In any case capital and labor were both more mobile than usual. While some lines of trade ran ahead, there were others awaiting their turn. It is one of the inevitable results of inflation that it changes the relative financial status of different

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classes and its full effect is but slowly diffused through all classes. The period of diffusion is necessarily one of great shifting of demand.

Symptom 4: A sharp rise in the price of necessaries, articles of luxury, raw materials, and provisions. This as an indication of the coming of a crisis must occur without inflation caused by direct government action.

Comment: Prices are not rising, they have risen and have fallen a little. The rise in prices that indicates a crisis always occurs when the crisis is about to break. The cause of high prices today is war inflation and a shortage of goods. It is quite different in character from the pre-crisis rise.

Symptom 5: A strong demand for labor, and a rise in wages. This is the exact counterpart of symptom four and is subject to the same comment. Wages, however, seem to have stopped rising.

Symptom 6: Unusual expansion of credit and of credit instrumentalities, accompanied by discounting on a large scale.

Comment: At present, while credit is enormously expanded, it does not seem to be expanding. Complaint of stringency was bitter all last summer. There was a determined effort on the part of the Federal Reserve Board and of the banks to restrict credit.

Symptom 7: An overstock of goods in many important lines accompanied by an undersupply in others, gluts, or, what is the same thing in effect, over-orders; that is, orders accepted as good by manufacturers, which, as a matter of fact, rest on a mistaken estimate by dealers of the consumers' capacity to absorb.

Comment: The recent curtailment of carrying credits forced liquidation in lines which showed this symptom. The liquidation which went on last winter and spring might be called a crisis, but it was a mild and very restricted one. It is not now believed that it will go any further. The Harvard Committee on Economic Re-

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search, after full study of all the factors, forecasted that the period of liquidation would reach its climax in December last and would be over by April, 1921, a forecast which seems to have been in a fair way fulfilled.

THE FALLING DEMAND FOR CERTAIN COMMODITIES

A falling demand has been felt in a number of industries. It has affected industries from which a shift in demand might well have been anticipated. Silk was the first to be hit. The consumption of silk fell from 30,000 bales in February, 1920, to 10,000 in July, 1920. A fall in prices of silks occurred. The mills slowed down. The department stores announced cut prices in May. Taken by and large, these cuts only lopped off the advances made since the summer of 1919. The woolen industry felt the falling off in demand last summer, and the American Woolen Company closed some of its factories. The reopening of the factories was announced September 13, 1920, at the old rate of wages and at prices somewhat lower than when they closed. The boot and shoe industry was operating during the winter, so it is reported, at only about 80 per cent capacity in an effort to prevent a reduction of its enormously inflated prices. Cotton goods, which brought very high prices but a short time ago, have been reduced. There are many other reductions being reported, but there are few reports of a glut or of overstocking.

In considering these symptoms we must guard against a possible source of error. High prices due to inflation of the currency may be at the same time low prices. At all events, since they are expressed in depreciated money, they differ in a degree from the type of high prices which come without inflation.

I conclude that there are no sufficient symptoms of a great crisis. We passed, in the spring of 1921, through a little one, but the worst is over. There is a world-wide shortage of goods that cannot be made up for a long time

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to come, and a scarcity of capital for the increase of production facilities.

Professor Wesley Clair Mitchell, the best informed scholar in the world on business cycles, stated last summer, after a lengthy review of all the conditions, that, if prices could be held at a "fairly stable level for 1920," as they were by and large, there would be no panic. Even if there were one, "the depression would be short because the stocks of commodities are low and the need for goods immense." One may say his prophecy has been shown to be true.

IS THE SMALL NUMBER OF BANKRUPTCIES AN OMINOUS SIGN?

There has been a very low rate of business mortality in recent years, with some increase just recently. From 1916 to 1921, the number of failures and the liabilities of failed houses was very small. If the liabilities be cut in two, as they should be, for comparison with pre-war failures, they were exceedingly low.

Bradstreet's figures showed a drop in the number of failures from 19,035 in 1915 to 5,550 in 1919, while liabilities fell from $357,000,000 in 1914 to $112,000,000 in 1919. In 1920 the liabilities were $417,000,000. Dun's figures, while larger, show the same conditions. The significance of the figures is hard to determine. If it is assumed that there is an accumulation of weaknesses and of the results of mismanagement that must eventually be cleared off, the figures are ominous. On the other hand, it is safer to assume that the steady rise in prices left a margin for mistakes, and that they have been cleared off as they occurred.

A CRISIS MAY ORIGINATE ABROAD

Some competent observers fear lest European countries—France and Italy, to be specific—may overestimate their capacity to pay for capital goods to reconstruct their

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industries, goods drawn from outside their boundaries, and that a series of bad failures abroad may precipitate a disastrous panic. Or they fear that a new war or insurrection may force European countries to ask an extension of their commercial debts to us to such an extent as to make it difficult for their American correspondents to survive. Others hold that our advances to European countries have been made with such caution and are so well secured that such a catastrophe is not likely.

PRICES FROM 1914 TO 1920

It requires no elaborate citation of statistics to convince people that prices rose markedly during the period from 1914 to 1920 and that they are very high today. Everybody knows these facts. But the following two indices of prices are quoted for reference. One is a good general level guide, the other is primarily designed to reflect the cost of living.

BRADSTREET'S INDEX OF PRICES

January 1, 1914	8.8857	March 1, 1920	20.7950
July 1, 1914	8.6566	April 1, 1920	20.7124
January 1, 1915	9.1431	May 1, 1920	20.7341
July 1, 1915	9.6898	June 1, 1920	19.8752
January 1, 1916	10.9163	July 1, 1920	19.3528
July 1, 1916	11.5294	August 1, 1920	18.8273
January 1, 1917	13.7277	September 1, 1920	17.9746
July 1, 1917	16.0680	October 1, 1920	16.9094
January 1, 1918	17.9436	November 1, 1920	15.6750
July 1, 1918	19.1624	December 1, 1920	13.6263
January 1, 1919	18.5348	January 1, 1921	12.6631
July 1, 1919	18.8964	February 1, 1921	12.6389
January 1, 1920	20.3638	March 1, 1921	11.8650
February 1, 1920	20.6890		

Before we entered the war, prices rose 70 per cent above the level of July, 1914, while we were in the war they rose 40 per cent more or to a level of 210, and last

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February they rose to 240, according to this standard index. Half the increase occurred before we entered the war and of the other half four-sevenths while we were in the war and three-sevenths after the armistice.

THE ANNALIST'S INDEX NUMBER OF THE COST OF LIVING

1914	146 or 100	compared with 1914
1915	148	101.4
1916	176	120.6
1917	262	181.1
1918	287	196.6
1919	295	202
1920	283	194
1921 to March 1, average 193 or 132		

The peak was in June, 1920, at 330 or 226. The usual seasonal fall in prices showed in 1920 and 1921, as it did not in 1919, being concealed in 1919 by the general upward trend.

INDEX NUMBERS DO NOT STAND THE STRAIN OF GREAT FLUCTUATIONS

We have, as a people, come to have a great respect for index numbers. They are reliable as to direction of change, but not as to the amount. It would carry me too far into technical matters to discuss this point. I can only state dogmatically that these index numbers, being arithmetical means, exaggerate the upward changes and, likewise, when reversed, and the low levels, compared with the high, as is commonly done, exaggerate the drop. Thus Professor Fisher has recently given this illustration. If the price of flour doubles and that of cotton falls to half, we have by the index number system, $200 + 50 \div 2 = 125$. That is, we are led to believe prices have risen 25 per cent when, assuming the two commodities to be of equal importance, the change in one has offset that in the other.

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THERE WERE THREE DISTINCT PERIODS IN PRICE INCREASES

To understand and to remember the story of the rise in prices one must recognize three distinct periods: (1) from August, 1914, to April, 1917, during which the rise was not less than 60 per cent and not more than 70 per cent; (2) from April, 1917, to the armistice, November, 1918, during which prices passed twofold the pre-war level; and (3) from November, 1918, to June, 1920, during which prices passed the peak of approximately two and a half fold pre-war prices. For our present purpose the exact figures are not so significant as is the rise during each period. The fact is that the rise during the last two years of the inflation period was slower than it was before.

WAR SPENDING CAUSED THE RISE IN PRICES

A study of the causes of the increase is essential to our inquiry. The rise in prices due to the war began in the summer of 1915 when the effect of the purchases of war supplies by the allies became apparent in the United States. The rise, which had been gradual to that date, soon became rapid. Munitions manufacturers demanded and received prices which would reimburse them quickly for the new investment required to manufacture the war supplies as well as to cover the cost of manufacture. The price of munitions, particularly of explosives, had doubled by October, 1915. Profits were so large that the contractors were glad to pay any prices or wages necessary to obtain quickly the materials and the labor they needed. Thus the rise in prices was transferred to other industries, which in turn were placed in a position to bid high for their supplies and labor. The rise in prices began to diffuse itself through the whole business structure. The allies poured their gold into the United States to pay for their supplies. When their gold ran out they paid by selling bonds here, and when that

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source failed, by raising funds at home and buying credit of the bankers here. To supplement these resources, they gathered up American securities, stocks and bonds, from their own people and sent them over here to be sold or pledged to get means of payment. The United States was flooded with foreign money, with foreign credits, and with American credits bought for the service of the allies. The American banks were in a position to create credit and to advance it to the allies or, what was the same thing, to the contractors who were working for the allies, because the new gold furnished a basis for the reserves. At that time every dollar of new gold available for reserves made from three to four or at a pinch five credit dollars available. As Professor Mitchell said: "Bank credit became the most abundant and cheapest commodity in America." Neither high interest rates nor lack of reserves put any brakes on expansion or checked the outpourings.

When the United States entered the war, all prices were high, and our purchases were made on the basis of already inflated prices, in markets stripped bare of raw materials, and from manufacturers who were already paying wages so high as to attract almost all the available trained labor. Then, in June, 1917, the Federal Reserve law was amended and the reserves required were cut very nearly in half. Every dollar in gold now meant nearly ten dollars in credit, or nearly eleven dollars in all, of purchasing power, and all the free gold in the country was rounded up for the reserves. An embargo was placed on the export of gold. The pockets of Californians were for the first time in the history of the state picked clean of gold. The State Treasurer of California patriotically broke the mandate of the state constitution and accepted paper in place of gold in payments to the state. Thus the last citadel of sound money in the whole of the northern hemisphere fell.

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Soon came the Liberty bonds and the credit of millionaires, shopkeepers, farmers, workers, servant girls, everybody's credit, was dragged, often from unsuspecting hiding places, to become current for the payment of Uncle Sam's needs. New tax money flowed into the treasury only to hasten out again to circulate from hand to hand, now buying munitions or food for the soldiers, now paying wages to labor, and then paying the grocer, the butcher, and the candlestick maker. Then Uncle Sam borrowed it all back again, together with new moneys from the profits and earnings of industry, or taxed the money back again only to set it all agoing afresh flooding the country with $23,000,000,000 of new purchasing power or new spending money. Prices shot up with such force that they didn't stop even when the armistice came, but kept right on up for another twelve months, nay, nearly eighten months. The last charge of powder in the rocket was the Victory Loan placed after the armistice.

WHAT INFLATION MEANS

I have been trying to explain how inflation came about. But what does inflation mean? Inflation, as Professor Kemmerer says, conveys the "idea of a supply of circulating media in excess of trade needs" occurring "when, at a given price level, a country's circulating media—money and deposit currency—increase relatively to trade needs." Untechnically stated, inflation occurs when the money of a country increases faster than does business or the physical volume of commodities for sale.

The result of inflation is money depreciation, which is only a long word for rising prices or more briefly still "H. C. L." When depreciation affects one form of money only, such as our paper money after the Civil War, it may be measured by the premium on gold. But when inflation is general, as it now is, gold itself is

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affected. All our American money today is on a parity with gold; and although we cannot prove it, for trading in gold stopped during the war and has not been extensively resumed, we assume that it was on a parity with gold all through the war. Gold depreciated in just the same measure as did all our other forms of money. Indeed we were lucky to have the gold. Every other belligerent country lost its gold and passed to a depreciated paper money basis. Gold cannot get back into the circulation of those countries until the paper which displaced it is once more out of the way.

MONEY AND PRICE THEORIES

There are several theories or formulas used in analyzing price movement, and exponents of the different theories do not agree. It is not necessary for our purpose to adopt or to defend one or another of the contending theories or formulas. For in all of them the following factors are regarded as essential and the differences of opinion are only as to how they interact. These factors are: (1) money, in the narrower sense, including gold and silver and other coins, bank notes, and all paper money issued by governments, whether legal tender or merely redeemable; (2) bank deposits other than those deposits and trust funds, like savings bank deposits, that are not readily available for payment, as by check; (3) miscellaneous substitutes for money, which ordinarily are of no importance, but which in times of stress may become very important. Examples of these are our clearing house certificates of past crises, script like that now used in German cities for the distribution of goods, and officers' requisitions for supplies in time of war; (4) the volume of goods of current production; (5) the rapidity of the turnover of goods and of money.

All are agreed that, other things remaining equal, an increase in items one, two, and three, money, bank

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deposits, and substitutes for money, will raise prices and a decrease will lower prices, and that a change in the rapidity with which each dollar passes from hand to hand tends likewise to change the level of prices. It is also agreed that item four is, as it were, the denominator of the fraction and that, the other items remaining the same, increase in goods or in the physical volume of business will tend to lower prices while a decrease will tend to raise prices. Our problem is therefore to determine whether money and credit are going to increase or decrease and whether the volume of business is going to increase or decrease.

WHAT IS MONEY IN CIRCULATION

Considering the multifarious character of our money —for there are many varieties and denominations—it is customary to look to experts like Professor Kemmerer, of Princeton, to tell us how much there is in circulation. He computed the money in circulation in the United States in 1913 at $3,390,000,000, and in 1919 at $5,709,000,000, an increase of 68 per cent. Carried down to 1921, we may say that we now have two dollars in circulation where we had one in 1913. He also gives us an estimate of bank deposits, which totalled $12,700,000,000 in 1913 and $25,700,000,000 in 1919. That figure, too, increased in 1920. Since from 80 per cent to 85 per cent of the business of the country is conducted on the basis of checks as payment, the increase in deposits subject to check has possibly more influence on the level of prices than has the increase in money. Then further, during this period bank deposits circulated more rapidly than normally, as is shown by the fact that bank clearings increased faster than did the deposits. The means of purchasing, the spending power of the people was thus increased enormously. So much for the top of the fraction.

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THE MEASUREMENT OF BUSINESS DONE

The measurement of the denominator or of business done is more difficult than is the counting up of the money. We can easily measure the rainfall or the amount of water we put on the land by irrigation, but it is harder to keep track of the growth of the crops. For that we have to wait the harvest. But Professor Fisher, Professor Kemmerer, and more lately Professor H. L. Moore have busied themselves with this problem from different angles. Kemmerer's results are best adapted to our purpose as being the most general. He measures the increase in the physical volume of business from 1913 to 1918 as 13 per cent. Unfortunately his figures stop there. But the Federal Reserve Board runs another measurement which shows a drop of 4.2 per cent in business in 1919. So the net growth down to the beginning of 1920 was only about 8 per cent, which is trivial when set over against the great growth in money. Commenting on these figures Professor Kemmerer says: "Is it surprising that the level of prices during this period more than doubled, that scarcely any commodities of importance can be found whose prices are not at least 60 per cent higher today than in 1913 and that the public is up in arms against the high cost of living?"

THE RISE IN PRICES IS WORLD-WIDE

The rise in prices has been world-wide and ours, on the whole, less than that of other countries. So close is the connection today between the monetary systems of different countries that we must enlarge our horizon to include the world. Normally the monetary policies of other countries affect our price level mainly through gold. There is only a limited amount of gold in the world. If ten great nations want it and use it as money, its purchasing power is very different from that which it has when only one great nation uses it.

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THE FLOOD OF MONEY IN THE WORLD

Before the war the grand total of means of payment represented by the metallic holdings, deposits, and note issues of the principal banks of issue in the allied powers, in the central powers, and in eight neutral or inactive belligerents, that is, in practically all the world except China, India, Australia, Africa, and Central America, but including only two countries of South America, was $13,466,000,000. At latest date of available information, it was $75,654,000,000, or over five and six-tenths fold. This is by no means the whole story, for there are other banks than the central banks of issue, and in many countries there was fiat paper money and a wide use of substitutes for money.

Before the war the deposits and notes of these same banks of issue were protected by reserves of gold or silver to the extent of 60 per cent. In 1920 they had only 14 per cent of metal behind them.

While the note issues of Russia, and of Germany, and of the other defeated nations, have an effect on our prices, it is mainly indirect in that it constitutes, as it were, a blockade against gold. If we eliminate those note issues and deposits from the above figures we have the following: at the beginning of the war, $7,030,000,000, after the war, $32,728,000,000, an increase of four and six-tenths fold. The reserves before the war were 60 per cent, and after the war, 21 per cent. It should be noted that by confining the figures to central banks of issue the situation is made a little too favorable in the case of England. For the position of the Bank of England is exceptionally strong and the figures leave out of consideration the deposits of the great joint stock banks and leave out some £320,000,000, or $1,500,000,000 of fiat paper money.

The explanation of the world-wide rise in prices is now clear. It was caused by an enormous expansion of

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money accompanied by a decline in the quantity of goods for sale. During the war the decline in production was emphasized by the fact that war supplies were sold and bought but once, instead of passing through the ordinary channels of trade. Outside the United States the depreciation in money is measurable, first, by the premium on gold, second, by the rise in the price of the dollar, the only remaining gold currency. Thus, if the mark is quoted at one cent in the exchanges, its purchasing power as compared with pre-war days is less than one half-cent.

THE GERMAN AND RUSSIAN SITUATION A SOURCE OF UNCERTAINTY

In Germany and in Russia, legal tender money, or that which was once legal tender, has depreciated to such an extent that substitutes for money of many kinds are in use. The history of like situations in the past teaches us what is likely to occur. Trade will be resumed on the basis of barter, then by the use of money of account, that is, by reference to some outside money that is stable, and finally by the use of gold and silver without legal tender, just by common consent. The last stage may or may not receive government sanction. After their long and bitter experience with the assignats at the time of the French Revolution, the French peasants tiring of the depreciated "l'argent de Paris," refused to accept it. Gold reappeared in circulation, probably from hoards. But the drawing power of the French demand for gold was so great that gold slipped through the net of the British embargo as though there were no embargo. When, by common consent, gold becomes the only accepted medium of exchange, the most drastic legal tender laws are set at naught. This was exemplified in the history of California during and after the Civil War. If either Germany or Russia attain a state of internal quiet such that trade can revive, there will probably be a drain on the world's gold.

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WHEN CAN ENGLAND, FRANCE, AND ITALY RESUME SPECIE PAYMENT

How soon can England, France, and Italy build up their gold reserves so as to return to a sound money basis? English exchange is fluctuating in price below $4 if one eliminates the temporary fluctuations of the crop movement and other causes. That is a discount of about 20 per cent. The greater part of this is by reason of the fact that the whole basis of exchange is now paper money. One who buys sterling is not buying gold, but a paper pound that is not convertible into gold. French exchange, at say seven cents per franc, means that the franc is at about one-third its gold value, while Italian exchange at four and one-half cents per lira is at a discount making it worth only one-fourth of its original value.

For these countries to resume specie payment will require the accumulation of gold from the surplus earnings of their banks or from the taxes collected by government. The banks are so weighted down with advances that they have made to the governments that the question practically resolves itself into this: How soon can the governments afford to return to a gold basis? That means, when can they make their revenues run ahead of their expenditures. The French and Italian governments are still running heavily behind and are borrowing money for current expenditures. Unless heavy payments are received from Germany on the indemnities, it will be many years before these governments will have an annual surplus. In England a policy of very heavy taxation has been established. But the first year after the war the government borrowed almost the entire sum that it paid out in interest on the public debt. The interest charges were £332,000,000 and the new borrowing was £323,000,000. Then there are the currency certificates and heavy advances from the Bank of England to care for, first. So it will probably be some years before the

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pound sterling will return to par. If during the next two years the pound can be raised to and held at $4, it will be a remarkable achievement.

OUR FOREIGN TRADE

On the basis of the government reports, which, of course, refer only to the value of the physical goods passing between countries, we have accumulated a favorable balance of some $4,000,000,000. It is often assumed that this is a debt that will have to be paid before anything like normal international trade can be resumed. I am inclined, however, to accept the view of Mr. Lipman, of Wells Fargo Nevada National Bank, San Francisco, given in a paper presented to the Seventh National Foreign Trade Convention, held in San Francisco, May 12, 1920, that this $4,000,000,000 has already been paid in what he aptly calls invisible imports, that is, in the various forms of property which a bookkeeper would put down as capital assets. There is no evidence that any large amount of it is in the form of current claims.

SUMMARY OF THE EUROPEAN SITUATION

Our survey of the European situation does not warrant the expectation that European countries will become gold-standard countries for many years to come. It follows that the purchasing power of gold will be low for some time to come.

There is, however, one very important point to bear in mind in this connection and that is that any fall in prices in the United States will tend to start a flow of gold to the United States and the greater the fall the greater the flow. This will tend to check a fall here. Assume for the sake of illustration that a general fall in prices of 25 per cent suddenly occurs in the United States. The still needy countries of Europe will at once be able to buy from us in larger quantities than before.

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In what will they remit? By the very assumption, dollars have become dearer in the United States. They can better afford to send back some of the gold that they have drawn from us since the war than to buy exchange in an increasingly unfavorable exchange market. Then we must remember that, under our laws, every dollar of gold that enters the reserves of the banks has the power, if used, of becoming from ten to eleven dollars in circulation. The assumed fall would be immediately checked, in fact it could not occur, except as a consequence of so large an increase in production that goods were nearly a drug in the markets.

OUR MONETARY LAWS AND THE POSSIBILITY OF DEFLATION THEREUNDER

In a series of brilliant articles Professor Davenport has recently placed the responsibility for the prevailing inflation of our money on the Federal Reserve Board and implies that that Board could, if it desired to do so, reduce it. Without entering into the controversy, we may inquire whether the Board has the power, and if it has, will it use it drastically. It is admitted that the immediate result would be a panic, which the professor regards as the lesser of the two evils. In the first place, it must be remembered that the Federal Reserve Board is there to administer the law. The law sets the amount of legal reserves required. There is very little probability that the reserves will be reduced by a change in the law. Rediscounting of commercial paper for member banks is a duty of the Board and, while it can exercise discretion in the performance of that duty, it has only limited powers. Moreover, by common consent, that policy now being followed is likely to be permanent.

THE DEFLATION CONFERENCE

On May 18, 1920, a conference was held in Washington between the Federal Reserve Board and the

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Committee on Deflation of the American Bankers Association for the purpose of devising plans "to save the nation from the consequences of an economic crisis." Alarm was expressed because "at the present time banks have loaned their customers a total which is beyond all precedent and in endeavoring to meet customers' requirements have called upon the Federal Reserve Banks for loans and rediscounts in greater amount than ever before." But no measures of drastic deflation were recommended. Only a sort of moral suasion was resorted to. The recommendation was that bankers should confine their advances to "essentials," whatever that may mean. It should be sufficient for the bankers to be governed by the old, old rule and inquire only whether each proposed loan is safe, short, mobile, and profitable. Since the conference, the Board has continued the policy of raising the rate of rediscount, which tends to stop further inflation but does not appear to have caused any great deflation.

The policies by which the Board is likely to be guided were set forth in an address by its President, Mr. Harding. He made it very clear that, while the Board desired to check further inflation, it was not inclined to take measures which would cause rapid deflation. There are two very potent reasons for this position. The first is that such action might create a crisis; second, because a curtailment of credit would tend to hamper the restoration of production, which is more important than the price level.

It must be remembered that the original purpose of the creation of the Federal Reserve system was to mitigate the evils of a crisis. It is possible that the present liquidation which some people call a crisis, although a very mild one, has been confined to its present proportion by the policy followed by the Federal Reserve Board.

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DEFLATION CAUSES SUFFERING

The industrial depression of 1884 was a long time ago and the people forget that deflation in its way causes as much suffering as inflation. Just as rising prices impose a hardship on creditors, so do falling prices impose a hardship on debtors. Rising prices are hard on the buyers, falling prices are hard on the sellers. Rising prices stimulate business, falling prices discourage enterprise. By discouraging business, falling prices reduce the demand for labor, increase unemployment, and depress wages. Of what use is it to a man if he gets ten dollars a day when he works, if he cannot get work? While it is easier to pay the mortgage when prices are rising, it is harder to do so when they are falling. He who has borrowed cheap dollars may have to repay in dear ones. It is difficult indeed to say which causes the more suffering, inflation or deflation. The suffering falls on different persons. We have nearly, but not fully, adjusted ourselves to the new price level. To finish that adjustment would be on the whole the more desirable. But unfortunately the matter is not wholly one under control.

SOME DEFLATION FAVORED

Deflation in some degree is, however, favored. Not exactly on the principle that turn about is fair play. But for the reason that it is generally expected, and possibly, until it comes, unrest will prevail. Moreover, it is desired because, for peace times, the security back of our monetary system seems small. The gold reserves of the Federal Reserve system fell recently to 38.5 per cent, which is only some 10 per cent to 12 per cent of general banking facilities. The world's gold production has fallen off to an alarming extent and there is the possibility of a demand for gold abroad. The foundations of our finances need a strengthening.

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DEFLATION HAS HARDLY BEGUN

Despite the general impression gathered from the recent price reductions, deflation is not going on to any great extent. The money circulation of the United States in August, 1920, averaged $6,119,000,000, the highest amount ever reached, and the total stock of money was $7,927,000,000, an amount exceeded but once and that last January, when it was $7,961,000,000. Deposits and clearings maintained an equally high level.

THE FACTS REGARDING FUTURE PRODUCTION

If the top of the fraction is going to remain large, what of the bottom part? Will production increase fast enough to offset the effect of lots of money?

The factors to be considered here are: (1) the crops; (2) the productivity of labor; (3) the new or increased use of machinery; (4) the restoration of our transportation facilities; (5) the nature and extent of our accumulated unfilled wants and the new course of demand.

THE CROPS

The forecasting of the crops has heretofore been confined to short periods. It has been based on observation by an army of untrained observers, each reporting his own ignorant judgment, hopes, and fears. Professor Moore, of Columbia, has recently perfected a method by which, as he puts it, crop forecasts can be made two months earlier, and in seventeen out of twenty times more accurately than by the present methods. This method will be available for the coming years and will tend to restrict wasteful speculation and to steady prices. He has also shown, what has never been established before, that there is a distinct cycle in crops. Without stopping to go into the details, it is sufficient to say that there is reason to expect that the average crops during the next four years will be above the normal. The details are in

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Professor Moore's article in the *Political Science Quarterly* for June, 1920.

LABOR WILL BECOME MORE PRODUCTIVE

History repeats itself monotonously in periods of inflation. On all hands we heard, in 1920, that labor, despite the high wages, was inefficient and slack. We were told that wages were so high that a man got enough to live on by working three days in the week, and so he loafed the other four; that those who worked did so half-heartedly and that the product per man per hour was exceedingly low. The pages of contemporary records in every period of inflation contain exactly the same complaints. A statistical inquiry made by David A. Wells in 1869 brought out the fact that only one employer in nine in that year believed that the amount of work performed in a given time compared favorably with that performed in 1860 when prices and wages were low.

Granting that the complaint was justified, it is not to be assumed that it represented more than a passing phase. There are few men who, when they have the power to better themselves, will not do so and every man has an unlimited capacity for multiplying his wants as fast as he has the power to satisfy them. The first period of slackening demand causes a certain amount of unemployment which makes every man cherish his job, and the best way to hold it against the man who is unemployed is to give a fair day's work for a day's pay.

There has been a great deal of shifting of employment from one industry to another and the labor turnover has been large. It still will be. This is an inevitable consequence of the uneven diffusion of inflation through the community. Wages have not gone up uniformly; they are much higher in some industries than in others. Many still lag behind and have still to realize upon the advance. The employment agencies are and will be flooded with men seeking better jobs.

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WE HAVE NO GOOD INDEX OF GENERAL WAGES

Strange as it may seem when we consider the large number of labor bureaus, we have no general index of all wages. That is because interest centers more on the differences in wages than on the similarity of trends. The following facts are pretty well established. The wages of unskilled labor advanced faster than did the cost of living. The wages of skilled labor advanced markedly in some industries and localities while in some it advanced but little. The struggle for the adjustment of wages to the "H. C. L." is still going on and a general leveling is to be expected. That labor should be content with only such advances as equal the advance in the cost of living was not to be expected. Wages were advancing before the war and the forces then at work are still powerful.

THE LAG IN THE ADVANCE OF WAGES

It is well known that wages lag behind commodity prices when inflation is at work. They also fall more slowly when deflation sets in. This in turn has the tendency to put the brakes on the fall in prices except in times of crisis.

That wages will gradually reach a level with the present level of prices is generally admitted to be certain. It is probable that the wages of unskilled labor, which went up faster and, on the whole, further than the wages of other labor, will be the first to feel the reaction. It is to be expected that, as the movement of labor from one trade to another lessens, labor will become more efficient. But the process will be gradual.

MACHINERY AND LABOR-SAVING DEVICES

War and post-war periods have often been periods rich in new inventions, but even more pronouncedly periods of the more intensive use of all known forms

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of machinery. This is a natural result of the feeling that labor is dear. As affecting the increase in production in the next two years, this factor is of importance.

TRANSPORTATION

The effect of the great efforts that we are now making to restore and improve our transportation facilities will be felt during the next two years.

Taking all four factors together, there is reason to believe that there will be increased production during the next two years.

WAR DEMAND, RECONSTRUCTION DEMAND, AND FUTURE DEMAND

There are always three quantities in the equation of prices. They are money, supply of goods, and demand. The interaction of these three determines the general level of prices. War demand, so far as our industries are concerned, practically stopped the day of the armistice. Reconstruction demand was mainly for restocking both of consumers' and of producers' goods which had been allowed to run down during the war. Comment has already been made on foreign demand, which raised our exports. Since the close of the war, it has developed that there is a scarcity of housing facilities of a quality up to the new standards of living of the classes whose standard has advanced. But capital is still loath to go into building until the future of rents and of prices is more clearly determined. The rapid changes in economic status during the war raised up a new class to be supplied with luxuries and comforts for which they had not before been in the market. All these factors created cross currents and temporary currents in demand which raised some prices far above the general level. These "crazy" prices are now being reduced and the false impression is being created that all prices are on the run. During the period of inflation, there was great confusion

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of price increases which was perplexing to buyers and sellers alike. Competition did not work with its usual smoothness. Clumsy efforts at governmental price regulation added to the confusion and delayed by many months the restoration of intelligent knowledge of market conditions.

A return to more normal conditions is indicated. Among the expressions recently current in the Bankers' news sheets were: "A changed buying attitude on the part of the consuming public"; "People are becoming impressed with the necessity of getting better value for the household dollar." These expressions reflect the approach to normal conditions of demand.

CONCLUSIONS AND FORECAST

I may now state the conclusions which I think are warranted by the facts brought under review.

First: During the next few years prices will tend to become much more uniform. The range of differences will be less. Some prices were recently more than five times as high as they were before the war. A general leveling will go on. Abnormal demands are now passing. The cost of production will once more assert its regulative power over prices. Many prices will come down, but others will advance.

Some index numbers show a fall to date of 35 per cent from the so-called "peak." The comparison is of little value, because the crest of the wave was so broken and fluctuations so violent. No one, to return to the illustration with which we began, would consider the highest drop of water in a breaking wave a proper measure of the crest. One must smooth the curve of the wave so as to keep in touch with a solid mass of water; the froth and high-flung foam is not the point to measure.

Second: Considering the large size of the monetary stocks, and the permanent fall in gold, the level of prices

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will be almost entirely regulated by the increase in production. Aggregate production is certain to increase. But the fall in the general level of prices which is certain to come will come slowly. It is to be remembered that for nearly two years after the close of the war prices were still rising. There is no reason to assume that they will fall any faster than they advanced and, as has been pointed out, there are forces which will tend to retard the fall. A fall of 10 per cent from the level of the winter of 1920, to be reached in the winter of 1922, is about all that it is reasonable to look forward to. I mean by this that, in the winter of 1922, $900 will buy as much of a large and representative list of commodities as $1000 would buy last winter. But, as stated above, there will be less extremely high prices, and many of those now low will advance.

Third: If, as is to be expected, European demand lessens its stress on foods, and our own crops are good, the fall in the cost of living may be larger than the fall in the average of all commodity prices. Possibly it may amount to as much as 15 per cent in two years.

Fourth: Wages will probably not show a general fall in so short a period, and some wages may advance. The class of labor that shows a marked tendency to become cheaper is unskilled labor, which advanced more than other labor and which will be first affected by the increased use of labor-saving devices.

Finally, I wish to repeat with special emphasis that a fall in the general level of prices, controlled as it is by general causes, is not to be confused with a general scaling down of every individual price. It is also well to add that war, insurrection, and a crisis originating in unhealthy European conditions, are eventualities barred from my forecast.

The temporary crisis is over and the normal course of deflation has probably begun.

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PHILOSOPHY AND HUMANISM

J. Loewenberg

One of the most distressing things about philosophy, distressing alike to the professional and the amateur, is the lack of agreement among the thinkers devoted to its study. The want of harmony among philosophers is proverbial and scandalous. Survey the whole field of philosophic literature, and what is disclosed to your view? An army of thinkers arrayed in everlasting dispute. A legion of theories in mutual discord. A host of perpetually recurring questions still unanswered. What a seeming contrast to natural science! Antagonistic theories in science do not long enjoy equal prestige. There is, if I may speak the language of biology, a natural selection among them. They struggle for existence in a sense not merely metaphorical. Only those theories survive which through careful and sustained observation and experiment are found to fit the facts they are designed to explain or to interpret. Confrontation with observed and observable facts is in the last analysis the test which decides the fate of conflicting hypotheses in science. And many a scientific theory has died for want of evidential nutriment. The relation between antagonistic theories in science appears to be one of geometric ratio. The success of one hypothesis means proportionately the failure of its rival or rivals. The theories which succeed in becoming accredited and established condemn to extinction and oblivion all those

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that for a season have disputed the field with them. Now it must be confessed that such is not the case in philosophy. Philosophic theories resist classification in terms of success and failure. The ascendancy of one does not mean loss of prestige on the part of its rival. Like the history of science, the history of philosophy is one of hostile and seemingly incompatible hypotheses, but the field of battle, fortunately or unfortunately, is not strewn with corpses of theory. The war of philosophic systems looks to the casual observer like a bloodless war. The struggle for existence among them is certainly not marked by any absence of violence and fury, but not mortal are the wounds which the combatants inflict one on another. The strife seems interminable, with no casualties and no victories. It is the endless and fruitless conflict of philosophic opinion that lends not a little justification to the disdain in which philosophy is held, particularly among men of science, as a subject of no practical or tangible consequences. Philosophy, they say, is indecisive. It gets nowhere. It moves in a circle. What is the result of philosophic speculation for the last two thousand years? Is not its history a record of unsolved and apparently insoluble problems? Is it not a repository of the same typical questions and the same typical answers with the same typical contradictions discernible in all of them?

I am moved to lay stress so strongly upon the apparent fruitlessness of philosophic speculation in contrast to the positive triumphs of natural science in order to show that it is a problem with which the professional student of philosophy is not unfamiliar. I beg leave to quote a passage from William James's well-known essay on "The Will to Believe," where the consciousness of this problem is voiced with such impressive candor. "For what a contradictory array of opinions," exclaims James, have objective evidence and absolute certainty been claimed! The world is rational through and through—its existence is an

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ultimate brute fact; there is a personal God—a personal God is inconceivable; there is an extra-mental physical world immediately known—the mind can only know its own ideas; a moral imperative exists—obligation is only the resultant of desires; a permanent spiritual principle is in every one—there are only shifting states of mind; there is an endless chain of causes—there is an absolute first cause; an external necessity—a freedom; a purpose—no purpose; a primal One—a primal Many; a universal continuity—an essential discontinuity in things; an infinity—no infinity. There is this—there is that; there is indeed nothing which some one has not thought absolutely true, while his neighbor deemed it absolutely false.

The philosopher is but too well aware of the passion with which, in the name of truth, thinkers have been wont to champion diametrically opposed views. But this situation may be exploited for positive as well as for negative comments upon the meaning of philosophy. The question why philosophers disagree so fundamentally and so ceaselessly may terminate in more than one answer.

Within philosophy itself, it must be frankly admitted, the attitude toward differences of opinion frequently encountered is that of a narrow and militant dogmatism. But it is an attitude, I hasten to say, not at all peculiar to philosophy. Its temper is general. Its spirit is pervasive. And breathes there a man completely immune from it? It consists in believing, with or without formulated reasons, that but one opinion or one set of opinions is true, from the point of view of which, all other ideas that contradict it may be stigmatized as false and condemned as heretical. In religious matters, to be sure, we no longer, speaking with Montaigne, set a high value on our opinions to roast men on account of them, but in these days it is dangerous to entertain political or economic heresies. Some ideas there are the holding of which may lead to serious consequences. Men are still punished for ideas. They are punished for believing what from the point of view of a given and established doctrine appears as false and therefore nocuous. Is

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this unintelligible? Not at all. Granted the indubitable truth of an opinion—be the opinion religious, political, economic, aesthetic, moral, or scientific—then whatever contradicts it is erroneous and obnoxious. Toleration of false ideas, provided you are convinced of their falsity, indicates a want of earnestness about truth. He who loves the truth will fight the wicked enemies that assail it. This is human, is it not? The only trouble with it is that men differ so about what they take to be the truth, and that one man's God is another man's devil. But the genuine dogmatist is he who is quite certain of being in possession of the only true ideas, and who is equally certain that all the ideas opposed to them are false, and are to be disparaged and repudiated. Of such exclusive and militant dogmatists, no sphere of human interest and activity is without its numerous and vociferous representatives. The dogmatic temper being so human and so universal, we should not be surprised to find it omnipresent in philosophy. Indeed it is there that the spirit of dogmatism is most rampant, because philosophic opinions more than any others are supposed to lend themselves to reasoned proof and sustained demonstration. Convictions about philosophic matters, so it is alleged, are impelled not by personal taste or social tradition but by rational necessity and logical consistency. A particular system of ideas, therefore, is by its protagonists earnestly proclaimed and stoutly defended simply because such a system alone is held to satisfy the demands of human experience and of pure reason. It is this which generates the spirit of controversy. The exclusive claim to be in conformity with truth burdens every system of philosophy with the necessity of exhibiting the fundamental errors in its opponents. And where truth is held to pertain to but one system of ideas, many schools of thought claiming to be infallible in the certitude of possessing it, the incessant war of philosophic doctrines is as inevitable as the past

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strife of religious dogmas, or as the present conflict of economic and political creeds. It belongs to the pathos of human civilization that from the point of view of the dogmatic adherents to any one system of ideas all those that deny its exclusive validity should appear as the blind foes of the only true faith. But, as a recent writer pertinently remarks, "If all schools of thought but one are fundamentally in error—as nearly everybody thinks in every age—would it not be a miracle that one should escape the common lot?"

Yet, dogmatism in the face of conflicting issues in philosophy as well as in the presence of antagonistic ideas elsewhere is determined by the human necessity of choice between alternative possibilities. Where possibilities present themselves for choice, as they do in all human affairs, and where preference for one of them is not blind or instinctive, the decisive factor is a potent conviction that what is chosen is good and what is rejected is evil. In matters of preference it seems impossible to avoid partisanship. To prefer means to be partial. We are most partisan, strange as it may sound to say it, when the grounds on which we justify our choices seem to us to partake of impeccable rationality. Where our choices appear as the result of rational necessity, we cannot help believing that the possibilities rejected by us are incapable of being preferred by our opponents for reasons as cogent as those which impelled our own preferences. The recognition of the equal adequacy of the choices of our opponents would be fatal to our own. Because our opponents choose what we reject, we are prone to impugn to them logical or moral motives inferior to our own. Our antagonists must be wicked or stupid, so we naturally assume, to subscribe to what we condemn as so patently false. But there is another alternative. It is the insight that views contradicting our own may be the co-eval with them in cogency or in the lack of it. The insight that either all human

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preferences are somehow capable of justification or that none of them may lay claim to finality or infallibility begets a skeptical defiance of the spirit of dogmatism not only in matters philosophical, but in others as well.

The skeptical rejection of any view which makes pretense to finality or infallibility is, in philosophy, associated with the name of agnosticism. It is an attitude of which a certain dread is almost universal. For it is generally regarded as destructive of the very end which is supposed to confer meaning upon the philosopher's quest, the quest of certitude. The aim of philosophy, so it is felt, cannot be the vindication of permanent doubt. The majority of philosophers will thus be found solidly arrayed against agnosticism. As a method or instrument of constructive speculation, skepticism is not without a certain prestige. But it is considered merely a potent stimulus for the vigorous thinker, a spur to reflection, a challenge to be met and overcome. Thus the chief merit of skepticism seems to consist in its eventual suicide. That skepticism is something to be finally escaped from is a conviction almost axiomatic. No wonder then that agnosticism, being skepticism rendered consistent, is looked upon as a low form of philosophy lacking in depth and dignity, over which, because of its so-called "constructive" or "positive" character, almost any kind of dogmatism appears to have the advantage. Yet one may ask whether agnosticism, so frequently maligned, is not an attitude the profound aspect of which is obscured by those who uncritically take it for granted that it is evil to doubt the possibility of identifying final or infallible truth with any system of human ideas. In philosophic literature agnosticism occupies a position not unanalogous to that of pessimism. Pessimism, too, is regarded as a challenge, as something to be transcended. A philosophy that terminates in pessimism is interpreted as negative and destructive, and

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thus inferior in cogency and profundity to those speculative syntheses that affirm the ultimate worth of life, and exhibit the reasonable character of the world. Somehow to accept the universe seems more rational than to reject it. As in life, so in philosophy, the affirmative attitude is considered saner than the negative. He who emphasizes the gloomy aspect of things is regarded as not so canny as he who can make the best of them. The pessimist is no more popular in philosophy than he is in other fields of human effort. He is unpopular because he refuses to "rationalize" or "idealize" evil. And how should evil be borne—our human lot *is* to bear it—unless some reason or value could be discovered in it? So it is quite natural that the optimistic apologist for the world and its ways should have the reputation for greater wisdom than he who fails to discover any "rational" explanation for it. Similarly with the agnostic. He shares the unpopularity of the pessimist owing to the same human reluctance to give up hope and to justify despair. We can live in tranquility, so it appears, only if we refuse to admit that we are moral or intellectual aliens in our world.

Much as one must sympathize with the motives which lie behind the opposition to final skepticism, there are other motives equally profound which make agnosticism not only intelligible but impart to it a dignity inferior to no "constructive" doctrine with a claim on final truth. Properly understood, agnosticism is not incompatible with the deepest sagacity and the shrewdest insight and the warmest sympathy. Stripped of its technical trappings, agnosticism, in its highest forms, is a human attitude of intellectual neutrality in the presence of conflicting opinions. Where neutrality is a matter of indifference or opportunism, it is indeed not preferable to blind adherence or instinctive aversion. Stupidity may be the mother of agnosticism as it actually is of many types of dogmatism. But where neutrality is genuinely intellectual,

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the result of criticism and the fruit of reflection, its strict observance involves the interplay of the finest and rarest of human traits: imagination, tolerance, honesty, self-discipline, humility, wisdom. To remain intellectually and deliberately neutral when opinions clash with each other violently and incessantly—as they do not alone in philosophy but in most human affairs—demands an imaginative insight into varieties of human motives and human needs, a spirit of sympathetic tolerance for different types of human experience and perspective, a sincere effort to appreciate and to appraise diversities of human ideas and ideals, a candid confession of one's own bias and prejudice, a humble recognition of the limits of one's intellectual potency, and a realization of the almost insuperable difficulty in checking a natural tendency to favor one side or the other in any human conflict. Neutrality of this type is an intellectual ideal as profound as it is rare. Despite the popular assumption to the contrary, it is not easier to doubt than it is to believe. Where both belief and doubt are not capricious but reasoned and sustained, doubt is more difficult of attainment simply because of our natural craving for certitude. We "believe upon instinct," so a well-known thinker has put it, "and find reasons afterward." What integrity and what rectitude, both intellectual and moral, must impel one to find reasons not to vindicate our instinctive beliefs but rather to discredit them! Agnosticism or intellectual neutrality is, therefore, something that runs counter to our instinctive preferences and aversions. It is not normal to be skeptical. It is not natural to be neutral. All our inclinations are either positive or negative, "inclining" in definite directions, partial to this or to that. And the inhibition of the natural impulse to believe upon instinct—an inhibition involved in all skepticism—may perhaps account for the fact that agnosticism as a speculative possibility is in the wide realm of philosophy still an alien and an outcast.

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Yet the arguments for agnosticism are as old and as persistent and as impressive as philosophy itself. The profoundest argument in its behalf has to do with the insight into the relativity and limitation of human knowledge. Human knowledge, so it may be averred, is relative either to individual idiosyncrasy or to generic peculiarity, and is limited to those facts which can come within the purview of our gradual and cumulative experience. We can never "know" the world in all its vastness and complexity, such as it might present itself to a human being endowed with omniscience, simply because as human beings we cannot transcend the natural and narrow confines of our personal or social perspective. We know what we are endowed to know, but our endowment for knowledge is incommensurate with the immensity and the opacity of those universal problems the "solution" of which traditional philosophy has always declared to be her prerogative. The critical insight into the finitude and fragility of human knowledge engenders the conviction that ultimate problems are essentially insoluble. And this conviction it is which finds articulate expression in a philosophy of neutrality. Negatively, it is a fearless attempt to impeach those philosophic doctrines which claim to possess certificates of absolute and final validity. Now, where all final opinions are spurious, is it reasonable to suppose that the philosophy of neutrality alone could escape the common fate? To maintain the validity of its own position, is neutrality not cozened to reinstate that finality the banishment of which constitutes its chief glory? Is not agnosticism itself a form of dogmatism? Does dogmatism cease to be dogmatism simply because its final verdict is not affirmative but negative? Questions such as these have often been supposed to sound the death knell of "final" skepticsm. But the logical impossibility of being infallible about human fallibility is no proof of

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the indubitable character of judgments other than agnostic. The refutation of agnosticism does not enthrone dogmatism. The possibility of rejecting agnosticism on skeptical grounds proves, if one may hazard the paradox, its potency and not its weakness. For in the inclusion of its own teaching within the circle of fallible opinions, agnosticism may discover the proof of its universal applicability. But all this is not really serious; it belongs to the dialectical war of words of which the one that has been waged around agnosticism is, in philosophic literature, not the sole example. More important than the theoretical refutation of skepticism, there being no philosophic doctrine immune from logical attack, is an appreciation of its human significance. In laying emphasis upon the relativity of knowledge, its limitations, its mutability, its instability, its frailty, agnosticism is the utterance of humility and reserve in the presence of problems of unfathomable depth. It is easy to feel complacency in the contemplation of the prodigious intellectual products of the human race. What human knowledge has actually achieved one may indeed, without falling into too facile an optimism, regard a genuine cause of pride and gratulation. But how insignificant after all is human knowledge! How small an island in an infinite ocean of ignorance! How shrouded in darkness and mystery is the universe still—its nature and extent, its origin and destiny, its meaning and purpose! How arrogant the attempt to postulate a symmetry between the cosmic forces and fortunes of things and the microscopic translations of them in human thought! In the light of considerations such as these every form of philosophic dogmatism appears, to say the least of it, impertinent and supercilious. "Perhaps," Mr. Santayana somewhere remarks, "the only true dignity of man is his capacity to despise himself." Perhaps, so may we say, the only true dignity of philosophy is its

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capacity to disparage human knowledge whenever it "waxes out of proportion and runs riot in idolatries." Perhaps the only true function of philosophy is the function which George Meredith ascribes to the Comic Spirit, that of being the "specific for the poison of delusion." Relentless criticism, perchance, is the soul of philosophy. And criticism means self-conscious analysis and rejection of whatever in our thoughts appears, quoting Meredith, "overblown, affected, pretentious, bombastical, hypocritical, pedantic, . . . self-deceived or hoodwinked, . . . drifting into vanities, congregating in absurdities." The skeptic or agnostic is the *enfant terrible* of philosophy but without the innocence usually associated with such a prodigy. He is the mordant and trenchant critic of all doctrinal extravagances. The thundering voices of authority do not intimidate him. He deprecates finality of opinion not because it is in itself despicable, but because the universe which it seeks to envisage is too great for it. His steadfast refusal to accord absolute validity to any philosophic view is born of the conviction that the universe is one the infinite depth and expanse of which no human system of ideas can fully sound or explore.

The disparagement of finality is certainly discouraging to those who ask philosophy to solve for them "the riddle of the universe." The impossibility of attaining finality, does this not, so they ask, render the whole enterprise of philosophic speculation vain and futile? Not at all, we may reply, if to philosophy be assigned a task other than that of solving enigmas. It may be seriously questioned whether the final "solution" of problems is at all congruous with our intellectual interests. Disparagement of finality is certainly not detrimental to science. In science, inquiry is not inhibited but is rather stimulated by the conviction that generalizations now held to enjoy a high degree of probability may in the light of new facts and experiences have to

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submit to radical revision. Men of science take it for granted that finality is a conception alien to their undertakings. It is often argued that finality is foreign to the spirit of science merely because the inductive method —supposedly the scientific method *par excellence*—is such as to preclude the possibility of any generalization having more than probable validity. While this is true, I do not think that it expresses the most important aspect of the situation. The relinquishment of finality on the part of science is not merely a matter of method. For some particular generalizations—those, for instance, that have to do with the revolutions of the planets or the circulation of the blood—claims may be made that are tantamount to indubitable certainty. So great is the competency of the inductive method. The foe of finality is the spirit of science as such, irrespective of the method it may employ and regardless of the established verity of some of its conclusions. For nothing in science is ever so "settled" as to fail to entice the scientific spirit to further exploration of which the result is always a crop of fresh problems and a harvest of new insights. In this respect the point of view of science presents an interesting contrast to that of art. The aesthetic experience—I am here speaking of the contemplative and not of the creative aspect of art—appears to be marked by an absence of doubt and perplexity. Art satisfies. It engenders repose and felicity rather than trouble and strain. The work of art in the immediate experience of it is not enigmatic or mysterious. It does not ask to be "solved." It appeals to our sympathetic imagination rather than to our analytical and critical propensities. And in the immediacy of the aesthetic enjoyment, the object, be it a product of art or, like a sunset, the work of nature, is felt to be a thing of joy forever, something unique, harmonious, self-contained. It is final. In the total experience of artistic enjoyment finality in the sense of completeness appears to be an essential ingredient.

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An object of art has finality if, in its immediate presence, the experience of aesthetic satisfaction suffers no break, no intrusion from anything extraneous or irrelevant. The greater the art, the greater the spell it casts upon us. The more beautiful the object, the more unreserved and unqualified and unquestioned our response to it. We simply accept it and rejoice in doing so. Of course, in the science of aesthetics, if it be a science, the aesthetic experience and the object, artistic or natural, which gives rise to it, forms a "problematic situation," something which requires description, analysis, criticism, interpretation, and the like; but the aesthetic contemplation itself seems during the enjoyment of it to be marked by an absence of all those elements which constitute the consciousness of a "problem." It is rather the consciousness of peaceful self-surrender to an individual and self-inclosed object. Now, unlike this object of art which invites contemplation and enjoyment, the object of science constitutes a problem requiring critical scrutiny and ceaseless reflection. Unlike aesthetic "observation" which culminates in appreciation and love of the contemplated object, scientific "observation" initiates a process of detached analysis and active experimentation which is a process of discovery, and as such brooks no final consummation. It is the possibility of fresh discoveries—the major presupposition and leaven of all science—which generates endless search and research beyond the boundaries of the relatively or temporarily "established" facts and theories. Newton's generalizations, for example, final as they seemed, were not absolute enough to restrain the genius of Einstein in attempting modification or revision of them; and who at the present moment will accord to the theory of relativity the distinction of being the last word in physical science? Yet, it must be borne in mind that, just as aesthetic contemplation constitutes a

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problem for the science of aesthetics, so a particular scientific theory may evoke appreciation very much like the artistic. A scientific theory may be contemplated as a product of a quasi artistic imagination, it may be enjoyed as something which exhibits aesthetic qualities, such as proportion, symmetry, coherence, simplicity, fitness, neatness, completeness. In this sense theories are often spoken of as "beautiful." Theories *quâ* theories regardless of their adequacy frequently impress us as possessing the same sort of "finality" which we ascribe to works of art. Such finality, however, is aesthetic and not scientific. It yields emotional satisfaction, not ultimate truth. Thus intimately bound each to each are science and art. But while this is unquestionably true, yet science and art exemplify two general types or forms of human response to life and to nature contrasted in spirit and attitude. The spirit of science is not a spirit of contentment and of peace, such as is afforded by the contemplation of art, it is a spirit of incessant search and untiring struggle and scrupulous criticism. It is distinguished not by sympathetic submission to objects envisaged as complete and finished and framed but rather by intellectual disdain of whatever appears to bar further investigation and exploration. The soul of science is a restless soul. Its temper is a temper aglow with defiance of all that limits and arrests inquiry, analysis, and experiment. Ceaseless incursion into the unknown is its endless task. It lives on questions and it feeds on problems. No scientific answer which in its turn is not the beginning of new questions. No scientific solution without its peculiar train of fresh problems. It is in this sense that the word finality is utterly incongruous with the critical and mobile spirit of science.

If the distinction between the aesthetic abandonment to an object and the scientific scrutiny of it is as fundamental as I think it is, may it not throw light on other differences in human responsiveness to life and to the

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world? Religion, for instance, does it not suggest something akin to art? As in art, so in religion, the emphasis is upon unreserved submission and uncritical surrender to an object viewed as complete and self-sufficient. To accept, to yield, to conform, to admire, to adore, to worship, to love, to feel moved and exalted in the presence of a spiritual and significant object—these are needs and experiences embedded in different degrees within religion as well as art. In morality, on the other hand, we have an attitude analogous to that of science. For morality is the scene of action. As the sphere of problematic situations, alternative possibilities, and incompatible choices, morality, when it is a matter not of instinct but of intelligence, entails doubt and perplexity, trial and error, observation and experiment, analysis and criticism, in short, the scientific spirit. All this, I hasten to say, is but analogy. No attempt is made to confuse different needs and interests. It is futile to "deduce" religion from art or morality from science. Nor is it feasible to "reduce" one to the other. Whatever their natural origin and deeper connection, a family resemblance, as it were, may certainly be noted—and that is all I wish to suggest in passing—between the attitudes of art and religion, on the one hand, and between those of science and morality, on the other.

The two contrasted types of human response to life and to the world here barely intimated find their profoundest utterance within philosophy itself. In philosophies that aim at finality, the motives behind them are suggestive of the aesthetic rather than the scientific interests. Those systems of ideas that culminate in dogmatism lay bare and voice a human need which art alone seems able to satisfy. It is the need of coming face to face with a complete and harmonious object the contemplation of which stays doubt and perplexity and yields enjoyment and satisfaction. For "classical" and

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traditional philosophy, in Mr. John Dewey's brilliant interpretation of it in his recent book on *Reconstruction in Philosophy,* philosophic knowledge is

> pure beholding, viewing, noting. It is complete in itself. It looks for nothing beyond itself; it lacks nothing . . . . It is most emphatically its own excuse for being. Indeed, pure contemplative knowing is so much the most truly self-enclosed and self-sufficient thing in the universe that it is the highest and indeed the only attribute that can be ascribed to God, the Highest Being in the scale of Being. Man himself is divine in the rare moments when he attains to purely self-sufficient theoretical insight.

"Philosophy is therefore," still citing Mr. Dewey's account of the traditional view, "the last and highest

> term in pure contemplation. Whatever may be said for any other kind of knowledge, philosophy is self-enclosed. It has nothing to do beyond itself; it has no aim or purpose or function—except to be philosophy—that is, pure, self-sufficing beholding of ultimate reality. There is of course such a thing as philosophic *study* which falls short of this perfection. Where there is learning, there is change and becoming. But the function of study and learning of philosophy is, as Plato put it, to convert the eye of the soul from dwelling . . . . upon the images of things, upon the inferior realities that are born and that decay, and to lead it to the intuition of supernal and eternal Being. . . . The whole conception of knowledge as beholding and noting is fundamentally an idea connected with aesthetic enjoyment and appreciation where the environment is beautiful and life is serene, and with aesthetic repulsion and depreciation where life is troubled, nature morose and hard.

We have a clue here, I think, to an understanding of the motives which lie back of the traditional attempts to read reality in the language of finality, ultimacy, absoluteness. The language of finality is the language of art and religion. Reality envisaged as an absolute whole, a closed cosmos, a rational system, stands forth as something to be contemplated with rapture or with reverence. And as the human need for aesthetic enjoyment or religious worship finds utterance in a variety of arts and a diversity of gods, so it likewise finds expression in a

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multiplicity of philosophic syntheses each of grandiose dimensions and dogmatic self-sufficiency. In contrast to the classical mode of thinking, the model for all subsequent efforts, philosophic agnosticism, in its distrust of fixity and in its disparagement of finality, partakes of the restless and hypercritical spirit of science and of the active and experimental gropings of moral behavior. In its disbelief in finality and infallibility, agnosticism, in theory and in practice, voices the conviction of enlightened common sense and of scientific experience that the unknown depths of the universe are still unsounded and that the undiscovered possibilities of action are still untried. By contrast with what is still unknown and with what is still unachieved, all our intellectual and moral treasures lose much of their luster and glory. The world of the unknown, despite the fact that our sciences have succeeded in making deeper and ever deeper inroads into it, nevertheless casts a shadow over all our human achievements; for no matter how much we discover and explore there is always something that we face as an impenetrable screen, an impassable barrier. But for this conviction, of which one cannot say that it asserts itself in many people with equal passion and persistence, our natural conceit and our normal vanity would tend to place too exaggerated a value upon our dogmas and our creeds and our beliefs in all fields of human theory and practice.

Is final skepticism, then, the final word? I do not think so. If agnosticism be an attitude of intellectual neutrality in the presence of opinions that conflict and contend for finality, then agnosticism, strange to say it, is not without its constructive side. The refusal to accord ultimacy to any human opinion is but one aspect of agnosticism. The reluctance to choose between conflicting system of ideas may spring not so much from a recognition of their equal inadequacy as from an appreciation of their equal significance. The inadequacy of

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any particular system of philosophy as an absolute and infallible revelation of the cosmos does not rob it of its positive worth as an expression and revelation of a typical human attitude. Not cosmic fortunes but human fortunes are at stake in the strife of philosophic opinions. To be neutral in this struggle does not mean intellectual apathy but rather liberal sympathy for all diverse efforts to grapple with an obdurate universe, simply because such efforts are human. Of philosophy it may perhaps be said, as Lord Morley said of religion, that "worshippers are ever dearer to us than their graven images." The graven images of metaphysics, its verbal idols and its ponderous systems, are not so precious to us as the human needs and passions and values and ideals which are embedded within and mirrored through them. Philosophy is the revealer not so much of cosmic as of human nature. And if this view of philosophy be iconoclasm, it is the iconoclasm of every sincere humanist. An iconoclast, the humanist, I suppose, will always be for the sake of the finer fruits of civilization, which, to grow and to multiply, demand that human imagination be set free from immobile dogmas.

If the view of philosophy here suggested is to have a definite label, humanism is perhaps the aptest name that may be given to it. Humanism means a transfer of interest and a change of emphasis from the cosmic to the human; it means that the war of philosophic attitudes is in the last analysis a war of human motives, visions, predilections, aspirations, ideals, purposes, values. Humanism finds in philosophy a sort of unconscious biography of the human spirit, a record of the changing visions and experiences of the race, a transcript of the heroic struggles of imagination and intelligence with an herculean task, a reflection of all the typical traits both noble and base, to which the flesh is heir. Pride and humility, bias and catholicity, impulse and reason, timidity and prowess, passion and wisdom—

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these and a host of other qualities of different blend and hue lend to metaphysical systems a coloring which detracts not a whit from Milton's well-known eulogy of philosophy. Only, in exclaiming "how charming is divine philosophy," we should feel inclined to substitute for the word divine the word human as being more accurately descriptive, albeit not quite so laudatory. Philosophy thus discloses itself as a repository of typical points of view, which, despite their tragic failures to envisage reality in its wholeness, demand appreciation simply as human responses to our common refractory world. Meanwhile humanism will always remain skeptical as science is skeptical. It is reluctant to admit that of all the colliding human points of view one and one only has a monopoly on absolute truth. Whatever truth we human beings possess is the result of slow and toilsome experience such as we find exemplified in the progressive achievements of science. But scientific knowledge is liable to revision and extension just because the region of the unknown from which we fetch evidence for or against our present generalizations is an infinite region. No man can tell what the borings of a mine infinite in depth and extent will bring forth. To this infinite region of the unknown, philosophy has no access other than that which is afforded by scientific exploration. To obtain knowledge of the world philosophy must build on science and in close union with science. When philosophy forsakes science, it forsakes the only solid and durable foundation on which knowledge can be erected. There is no philosophic knowledge as distinguished from scientific. Philosophy can give us no insights esoteric or occult. The confusion which has always been the lot of philosophy is due to the extravagant claims made for its sweeping generalizations. These from a humanistic point of view are at once dubious and significant. Dubious, philosophic generalizations are, if taken as disclosing the cosmic nature of

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things, but extremely significant, as recording the human ways of being affected by them. Herein lies the possibility of understanding the never-ceasing conflicts of philosophy. They are not conflicts of scientific theory to be progressively verified or gradually discarded. They are conflicts of human attitudes and human visions having their roots in human nature and finding their concrete expression in human history. How to understand and interpret human conflicts as they appear in philosophic form—this is indeed a long and fascinating and very much of a tragic story. It is the story of human civilization in its entirety. It is the story not of abstract concepts detached from life, but of human intelligence and imagination in its travail with an unfathomable universe. Philosophy is not, adapting the words of a witty writer, "an unearthly ballet of bloodless categories," but a passionate adventure of the earth earthy, a natural and vital enterprise inevitably growing out of and wielding a subtle influence upon the whole substance and structure of human needs and interests—religious, scientific, aesthetic, moral, social, political, economic. The movement and evolution of philosophic ideas depends upon whatever laws there are that account for the movement and evolution of all other ideas and forces and institutions which in their aggregate form the body of human civilization. Thus to view and to study philosophy is to view and to study it as a humanist.

The question, then, why philosophers disagree is in the end a question why human nature and civilization are so heterogeneous, the soil of so many conflicting motives, the fabric of so many incompatible tendencies. From a scientific point of view, scientific in the sense employed in this essay, any answer that might be hazarded could have but hypothetical value. No final opinion about human nature and civilization is now possible in the light of the intricacy of the subject and of our still inchoate knowledge about it. Until we know

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more about the origin and destiny of nature and humanity than we now do, it behooves us to maintain and to cultivate an attitude of liberal neutrality toward all those diverse responses to our world recorded in the annals of philosophy. This, I repeat, does not mean indifference or apathy, but rather understanding and sympathy for varieties of human experience in the face of a universe so overwhelming in its immensity. But such liberalism, whether metaphysical or political, issuing from the marriage between impersonal criticism and whole-hearted appreciation of human differences, is, as Spinoza long ago observed concerning all things that are excellent, an attainment as difficult as it is rare.*

* Read before the Kosmos Club of the University of California, April 4, 1921.

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MASSET SANDS

A. C. L.

The sun is bright on Masset strand,
  The tide recedes invitingly.
Oh! Smooth and firm is the widening sand,
  And smooth the gently heaving sea.

Across the strait the mountains loom,
  Great sapphires in an azure sea;
Near by, the lowly roses bloom,
  And little birds sing merrily.

In endless sweep the sands extend,
  A path of gold all edged with white,
To where the sea and heavens blend,
  Defined as gleam of meteor light.

The beach is fringed by brilliant green.
  Beyond, in silent gloom arrayed,
Stand myriad trees of somber mien,
  With never a glimpse of open glade.

And I am free to choose my way:
  Sail out o'er the ocean's vast expanse,
Or through the forest toil I may,
  Or golden path to heaven dance.

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PRESENT TENDENCIES IN EVOLUTIONARY THEORY

S. J. Holmes

In attempting to give an idea of present tendencies in evolutionary speculation I can perhaps best proceed by recounting briefly some stages in the development of evolutionary theory since the publication of Darwin's *Origin of Species* in 1859. In the sixties and seventies interest was mainly centered in the establishment of the doctrine of organic evolution, in discovering new evidence for its support, in working out probable lines of descent among animals and plants, and in interpreting the facts of morphology, palaeontology, geographical distribution, and embryonic development from the evolutionary standpoint. This was a period of controversy in which the principle of evolution was gradually winning its way to general acceptance in the world of scholars. It is difficult for us, habituated to looking upon the world and its inhabitants as the outcome of a gradual development, to appreciate the profound changes which were then being wrought in man's outlook upon the problems of life, mind, and society. A great, new, and revolutionary conception of the origin of the existing order of the world of life was brought before the minds of all thinking human beings, filling some of them with apprehension and dismay, but powerfully stimulating others by its grandeur and far-reaching import.

Unlike the evolutionary speculations that preceded it, the doctrine set forth in the *Origin of Species* attracted

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at once the attention of all serious thinkers. It was soon realized that the struggle between two rival world conceptions was on in earnest. Science had developed to such a point that the hypothesis of evolution could not remain as one among many mere guesses at the riddle of existence. It must be tested in the light of morphology, palaeontology, distribution, and embryology, and rejected if not proven worthy of acceptance by critical scholars. Darwin's great work supported the theory with a wealth of facts, drawn from a variety of fields, and marshalled with an ability that made it at once apparent to every scientifically trained person that he was face to face with a doctrine to be seriously grappled with. And it was not many years before the battle in behalf of the theory of evolution was won.

The influence of the writings of Darwin in compelling the acceptance of the theory of evolution was due not merely to the abundant evidence with which this doctrine was supported, but also to the fact that they set forth a good working hypothesis as to how and why evolution might have been brought about. The process of natural selection which Darwin regarded as the chief though not the sole cause of evolution presented at least an intelligible explanation of the development of the wonderful adaptions which form one of the most noteworthy features of the organic world. It was the apparent purposiveness manifested in the structure and activities of living beings that afforded the chief argument for the theory of special creation. The evidence of design and contrivance which organisms exhibit in such profusion had long been dwelt upon for the consolation of the faithful and the discomfiture of the skeptic. Now comes a theory which would eliminate teleological explanations in the realm of organic nature, and account for the development of life in terms of the survival of fortuitous variations in the struggle for existence.

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Undoubtedly the great import of the theory of natural selection was that it afforded a means of explaining the development of structures exhibiting evidence of creative design in terms of processes which in themselves show no indication of purposive control. In other words, it afforded a very simple way of construing teleology in terms of mechanism. And whether or not we hold with Huxley that teleology received its death blow at Darwin's hands, it is evident that the theory of natural selection greatly aided the acceptance of the theory of evolution by showing how it was at least theoretically possible to explain by natural means the features of the organic world which had long been held up as incontestable evidences of creative design.

It is not my purpose to dwell upon the controversies over the fact of evolution, as this question is almost universally regarded as settled by the arguments of Darwin and by the vast amount of confirmatory evidence that has been accumulated in different fields by Darwin's coworkers and successors. I shall also pass over the progress that has been made in ascertaining the probable lines of descent of the various groups of animals and plants. And I shall omit all consideration of the light which the theory of evolution throws upon the problems, not only of biology, but of psychology, social science, ethics, and many other fields of human thought. My discussion will be limited to the method of evolution, not only because this problem is one of fundamental importance, but because there seems to be prevalent a remarkable amount of misunderstanding concerning the bearing of recent biological investigation on Darwin's theory.

The doctrine of natural selection early won and has always maintained a wide acceptance among biologists. I believe I am safe in saying that no other theory of the cause of evolution has ever been so widely accepted as the theory of natural selection. Darwin believed that

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the transmission of acquired characteristics, whose importance in evolution had been emphasized by Lamarck, was a potent subsidiary factor, and he not infrequently appealed to it in order to help himself out of tight places. But since Weismann made his attack upon this doctrine during the eighties, belief in the transmission of acquired characteristics has steadily lost ground. The so-called neo-Darwinians, with their belief in the "all sufficiency of natural selection" (the phrase is Weismann's) form a flourishing school. During the two decades between 1880 and 1900 Professor Weismann, who was then perhaps the most influential figure in the field of evolutionary speculation, carried on a destructive criticism of the Lamarckian doctrine, and, at the same time, built up an elaborate theory of heredity and embryonic development, and manfully struggled to show how the principle of selection, reinforced by his subsidiary hypotheses of panmixia and germinal selection, affords a sufficient explanation for all the evolutionary changes in the world of life. What Romanes has called Weismannism has been a strong stimulus in directing thought and research into what have proved to be very fruitful fields. Weismann represented an extreme type of selectionist—but there are other biologists to whom Darwin's theory made little appeal. A few practically reject it entirely. Some orthogenesists and neo-Lamarckians ascribe to it a minor and merely negative rôle in killing off the weaker members of a species that fall below the average of fitness to their environment. Others, like Spencer, look upon it as an important factor in evolution but deem it obviously insufficient as a general explanation of either progressive or retrogressive development. And Alfred Russell Wallace, otherwise an orthodox neo-Darwinian, balks at admitting that it is capable of accounting for the development of the mental and moral faculties of man.

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There have been few theories which have furnished a target for so much adverse criticism. It has been objected that natural selection cannot create but only destroy; that it cannot account for the beginnings of useful structures; that it cannot explain the development of organs of extreme complexity; that it does not explain how new variations are produced and hence compels us to seek elsewhere for the real causes of evolution in those agencies, whatever they may be, that give rise to variation. Much has been made of the difficulty that natural selection cannot cause the evolution of organs that involve simultaneous and appropriate modifications in a number of coöperating parts in order that each increment of improvement be of selective value. It has been urged that evolution has proceeded along definitely directed paths, and hence we must seek in some form of orthogenesis for the main cause of evolutionary progress. And then it has been claimed that natural selection is merely an unverified hypothesis, that, as Lord Salisbury has said, "No man has ever seen it at work."

These and other objections have afforded material for endless discussions. Accessory hypotheses such as panmixia, germinal selection, physiological selection, the intra-selection of Roux, and the theory of organic selection, have been advanced to meet various difficulties that confronted the theory of natural selection as formulated by Darwin, and these again have contributed further to swell the volume of controversial literature. It is not surprising, therefore, that symptoms of weariness developed in many quarters over the purely dialectical character of much of the writing on evolutionary theory. After the initial enthusiasm over a great conception had passed, students of biological science endeavored to penetrate more deeply into the workings of the forces which brought about the present order of the organic world, and it was found that the problem of the method of evolution was one with which little real headway had

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been made. The problem seemed more amenable to the ingenuity of speculative thought than to actual investigation by observation or experiment.

One difficulty lay in bringing rival theories to the test of verification. We may study the method of evolution by observing the actual course of evolution in the organic world and then test our theories of the causes of the phenomena in the light of their conformity with the facts, or we may study the causes actually at work in modifying the characteristics of existing species. The first method involves the study of those fields of inquiry which reveal the actual course of evolutionary changes. But even if we had an exhaustive knowledge of these fields we should still be ignorant of the causes which lay back of the unfolding of life. Knowledge of the way in which evolution has proceeded would be of great service in the search for causes; but however well our theories might account for the course of evolutionary history, we could never be quite sure of their truth until in some way we had brought them to the test of verification.

While the progress of evolutionary theory between 1859 and 1900 failed to realize the possibly over-sanguine hopes of many biologists, it must not be inferred that no important advances had been made. The influence of geographical isolation in the formation of species had been brought out by A. R. Wallace, M. Wagner, L. Gulick, G. J. Romanes, and more recently by D. S. Jordan, C. H. Merriam, J. A. Allen, J. Grinnell, and other American workers on different groups of vertebrate animals. The isolationists had an adequate answer to the objection based on the swamping effects of intercrossing, which Fleming Jenkin was the first to urge against Darwin's theory of the origin of species. No new variation, according to Jenkin, could establish itself, because it would breed with the parental type and produce an intermediate progeny which would gradually lose itself in the general average of the species. Moritz Wagner, in his well-

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known essay on "The Darwinian Theory and the Law of Migration," urged that the only way in which a variation may escape the swamping effect of intercrossing is to become isolated, by migration or otherwise, whereby it may develop in its own way, unchecked by interbreeding with the parent species. The large amount of careful work on geographical distribution which was stimulated by the problem of the origin of species has yielded abundant and conclusive evidence of the importance of isolation in the formation of distinct types. D. S. Jordan has formulated the principle that, "Given any species in any region, the nearest related species is not likely to be found in the same region nor in a remote region, but in a neighboring district separated from the first by a barrier of some sort." There is no doubt that this generalization, which J. A. Allen has designated as Jordan's Law, is quite generally exemplified in the distribution of vertebrate animals and in many species of invertebrates. It is fairly well borne out in the distribution of the races of man and in many species of higher plants. But it is no less evident that it meets with striking exceptions. In many cases closely allied forms inhabiting the same area do not interbreed. They may have breeding periods at different times, or live in different local habitats, or be in other ways sexually instead of geographically isolated, so that the broader principle of Moritz Wagner, "Ohne Isolierung keine Arten," may still be claimed to apply to them.

Just how isolation works to promote diversity has been variously interpreted. The controversy as to whether isolation *per se* is able to occasion divergence, independently of natural selection or the influence of environment, as maintained by Gulick in opposition to Wallace, we can now decide in favor of the former investigator. It is coming to be recognized more and more that the various marks which naturalists employ to distinguish species and varieties have no particular value

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to their possessors. Much has been made of this fact by Eimer and others in attacks upon the theory of natural selection as an explanation of the origin of species. Still under the influence of teleological conceptions, Darwin and most of his contemporaries were prone to look upon everything in an organism as of some use, and, armed with a principle by which the origin of structures might be explained because of their use, they regarded specific characters as quite generally of some service to the organism. The selectionist had to recognize, however, a certain element of unfitness in every species. Darwin, who attempted to explain the origin of species by means of natural selection, believed that species were formed by the preservation of relatively minute favorable variations, and that therefore the characteristics by which one species differs from another represent the summation of a large number of successive improvements in the inherited endowments of the stock. He had read Paley's "Natural Theology" with great admiration and was strongly impressed with the wonderful adaptations of organic structure which are so clearly set forth in that able and celebrated work. Darwin was persuaded that he had to account for a condition of extreme perfection and nicety of adjustment in every organism. While abundantly conversant with the occurrence of sudden and well marked variations, he believed that such variations were of minor significance for evolution, because he deemed that, except in rare instances, they would be ill adapted and would tend to die out. As one is not likely to fit a peg neatly into a hole by going at it with an ax, so an organism is not apt to secure a close adaptation to its environment by a series of great and sudden mutations. Of course an organism must possess a considerable adaptiveness to its environment in order to survive. But if, as most biologists now hold, the margin of inutility in organic structures is wider than it was supposed to be by Darwin, it leaves a more open

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field for other theories of the formation of species besides the one formulated in Darwin's celebrated work.

Since species-forming has been so frequently associated with isolation, it might be contended that it has taken place because of isolation. And undoubtedly much can be said for this viewpoint. Recent work in genetics has shown how a species containing a large amount of hereditary diversity may be broken up, through isolation, and quite independently of any selective elimination, into a number of different types. Such a segregation of types is simply an incidental product of inbreeding. Isolated groups tend to become homozygous or racially pure for different characters. And where any strongly heterozygous species is scattered into a number of restricted localities, it becomes inevitably broken up by inbreeding into distinct subdivisions.

The problem of the closeness of fit between the species and its environment has an important relation also to the theory of mutation. If specific characters are frequently of little or no biological importance, they may have come about full-fledged by a single variation. Whether species have been made by small steps or relatively large ones is, however, of subordinate importance for the larger problems of progressive evolution and the development of adaptations. Darwin attempted to explain the origin of species—which is essentially divergence—and progressive adaptive development by the same method of survival of the fittest, with occasional aid from the transmission of acquired characters. Recent developments of evolutionary theory have tended to treat the formation of species as more or less independent of the progressive transformation of the world of life; and many who, like de Vries, oppose the view that species have arisen by means of natural selection, still hold that natural selection affords an adequate explanation of progressive adaptive development.

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It must be admitted that the theory of natural selection is the only hypothesis that has been offered by which the development of adaptations may be interpreted in terms of the known processes of life. Lamarckism, which at best can account only for certain classes of adaptations, has to postulate an organism already provided with the power of meeting its conditions of life by appropriate structural and functional changes. Many who reject the doctrine of natural selection attempt to cut the Gordian knot by espousing some form of vitalism or by appealing to some kind of supernatural guidance or directive agency in development. For the school represented by Hans Driesch, life is primarily purposive, incapable of being explained in physical and chemical terms, and bent on realizing its own end in the development of the race, as in that of the individual. The problem of adaptation is still in the foreground of interest. Some would solve it in this way and some in that; some avoid it; while others apparently do not see it at all. But there is no doubt that it will remain one of the central problems of biology for many years to come.

The first two years of the twentieth century were made memorable in the history of evolutionary theory by the appearance of the first volume of de Vries' *Mutationstheorie,* and the rediscovery of Mendel's law of heredity. Mutation and Mendelism have been closely associated in recent literature on genetics. The two bulky volumes of *Die Mutationstheorie* contained a great wealth of observational and experimental data that served to impress the fact that the method of evolution is a subject for investigation by the breeder of plants and animals. The doctrine of mutation, which claimed that species had a sudden instead of a slow origin, removed some of the obstacles which Darwin's own theory had to cope with, and it gained acceptance, especially in America, with a rapidity which was quite unjustified, I believe, even by the wealth of evidence which de Vries

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adduced in its support. It was widely accepted by morphologists and experimentalists, although regarded with extreme suspicion by most students of taxonomy and distribution. The search for mutations soon made it apparent, however, that stable hereditary variations were not, as a rule, of large extent. As de Vries himself has stated in his *Plant Breeding,* many of them range down to the limits of detectability even for the experienced eye. Breeding experiments have shown that most of the small individual variations to which Darwin attributed so much importance are purely somatic and have no discernible influence on the next generation. True hereditary variations, even small ones, are more rarely met with. It is often difficult to distinguish such variations amid the large amount of somatic fluctuation by which they are obscured, and it may happen that they will be found to occur more commonly than is generally supposed. The mutationists and the Darwinians may therefore be compelled to draw more closely together in the future, as in fact they have already done to a certain extent.

The precise relationship of the Darwinian theory to the mutation theory as modified by recent observations is differently conceived by different writers. For the larger problems of evolution Darwin and de Vries stand on the same foundation. Many series of breeding experiments have made it evident that most distinct species differ in a number of inherited factors and hence must have been produced by a number of successive steps. But this work also shows that they have probably not been produced by a continuous accumulation of ever present variations, as Darwin supposed. Much has been learned about variation since Darwin's time, but to set forth the bearing of this knowledge involves a brief discussion of the other important discovery I have mentioned, namely, Mendel's law of heredity.

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The essential feature of Mendel's law is that characteristics behave as units in inheritance and are capable of being combined in varied relations and assorted in definite numerical ratios. Mendelizing characters go in pairs, and, on account of the way in which these characters are distributed, Mendel was led to assume that the germ cells are pure for one or the other member of such pairs. This shrewd surmise, although made at a time when nothing whatever was known of the cellular mechanism of Mendelian inheritance, has since been confirmed by a large amount of careful and detailed investigation. Various pairs of characters may be independently assorted, producing Mendelian ratios of various kinds according to the number of independent characters dealt with.

Through a remarkable series of studies on the structure and development of the sex cells it has been rendered exceedingly probable that Mendelian characters have their basis in nuclear bodies called chromosomes. The work of Morgan and his associates has shown that in the fruit fly, Drosophila, characters are inherited in groups; that the number of such groups is the same as the number of chromosomes in the mature germ cells, namely four; that the factors for these characters have a linear arrangement in the chromosomes; and that occasionally they may pass from one chromosome to its mate in the period of synaptic union. Hypothetical maps are made of the distribution of these hereditary factors, based on their different degrees of linkage and the frequency of what is called "crossing over."

Over two hundred mutations have been found to arise in the fruit fly during the few years it has been kept under observation. When a new mutation arises, appropriate breeding experiments can be made to ascertain if it belongs to the sex chromosome or to the second, third, or fourth chromosome, and then to determine how many units it may be removed from other factors in the

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same chromosome. While space forbids my presenting the evidence upon which these remarkable conclusions are based, I may say that this evidence has compelled at least the provisional assent of most of the critical students of genetics who have devoted serious attention to the problem.

The penetrating analysis which Morgan and his co-workers have made of variation and heredity in Drosophila has thrown much light, and promises to throw more, on a number of problems of evolution. For an illustration of this one may turn to the recent controversy concerning what may be accomplished by the process of continued selective breeding. As is well known, cultivated plants and domestic animals have been rapidly modified by the process of artificial selection. It was formerly held that such changes could be carried on for a practically indefinite period. But experience has shown that in practice, while selection may produce results quite rapidly at first, it operates afterwards more slowly and finally comes to a point, usually in a few generations, at which it seems powerless to produce further change. These results are now pretty well known to be due to the gradual production of a homozygous condition for those factors already present in the stock which produce the maximum development of the character in question. It is an affair of shuffling and sorting the cards. And when it is completed, further progress must wait upon the appearance of new mutations, if, happily, they arise.

Much discussion has centered about the question whether or not the basis of unit characters, the genes, are capable of being modified by selection. The work of Castle on hooded rats seemed to show that, through selection, modification might be made in a character that behaved as a simple Mendelian unit in inheritance. As Castle remarks in his *Genetics and Eugenics,* published in 1916,

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There is apparently no limit to the quantitative change which can be produced in the hooded pattern by selection, short of its complete extinction in the all white or all black condition toward which our minus and plus selections respectively are steadily tending. Yet there can be no doubt that only a single genetic factor is here involved. A tentatively adopted hypothesis that modifying factors were concerned in it has been definitely disproved. Any finite number of such modifiers would have been greatly reduced or eliminated altogether by seventeen successive selections, yet no slowing up is observable in the rate of change of the racial character under selection either plus or minus. The changes effected by selection show permanency under crosses with wild rats. The selected races are changed by a wild cross no more than an unselected hooded race is. A first cross of the selected races seemed to show a partial undoing of the changes produced by selection but a second cross made on a still larger scale, involving over one thousand second generation individuals, showed no further change of this sort, but instead a return to about what the selected race would have been had no crossing at all occurred.

The conclusion seems unavoidable that the single genetic factor involved in this case has undergone quantitative change under the influence of selection.

However, further testing of the hypothesis that the hooded character in rats depends upon multiple factors led Castle to reverse his previous stand, and to agree with Johannsen, Morgan, East, Hagedoorn, Bridges, and others that his results may be explained in conformity with the theory of the constancy of the genes, which is now the favorite form of the doctrine of non-transmutability. In a paper published in 1919 on "Piebald Rats and the Theory of Genes," he concludes that results obtained by the new method of testing the purity of his stock

favor the widely accepted view that a single gene is not subject to fluctuating variability, but is stable like a chemical compound and changes only similarly by definite steps (mutation in the sense of Morgan, not of de Vries) that offer no obstacles to the proposition of Johannsen (ably supported by East) that a gene terminology is adequate to explain all known varieties of inheritance phenomena.

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The extent to which characters may be changed through selection varies greatly in different forms. In some cases selection apparently can do nothing at all. In the experiments on corn which have been carried out at the University of Illinois, it has been found that the protein and oil content has been increased in some strains selected for high content and decreased in those selected for low content during the twenty years in which the investigation has been carried on. In Drosophila it has been possible to demonstrate the existence of modifying factors, to determine their location by their linkage relations, and to show their effect on the character under investigation. Sometimes these modified factors may arise as new mutations in the course of selective breeding. They may be located here, there, or anywhere in the chromosome complex. Occasionally successive mutations occur in the same locus of a given chromosome. This has occurred several times in the factor for eosin eye color and a few times in the factor for bar eye.

Selection seems to have not the least effect upon either the location or the nature of the new germinal variations that make their appearance. A scrutiny of the numerous mutations that have arisen in Drosophila shows them to be of the most varied character and quite without definite relation to utility. Most of them are recessive; several are dominant; others partially dominant. They are just the fortuitous variations which Darwin postulated as forming the raw material out of which selection might build up perfected structures. Some of these variations show much greater viability than others. Several of them are lethal, that is, when present in the duplex state they cause the death of the organism. From the standpoint of utility the majority of these mutations must be treated as failures. Occasionally, however, if not in Drosophila at least in many other forms, the new variations that arise are apparently better adapted than their parent stock and tend to supplant it under conditions of free competition.

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Recent work in genetics has furnished us with a much clearer picture than we formerly had of the nature and origin of the variations which constitute the material for the transformation of species. Particular heritable variations are the results of changes in localized parts of chromosomes; they behave in general as Mendelian unit factors; they occur sporadically in various parts of the different chromosomes; and while they may affect predominantly one or at least a few features of the body, there is reason to believe that they change to a certain extent the entire constitution of the organism. A variation in a particular locus of a chromosome may produce as its most obvious result a change in eye color, but it may also influence the development of wing characters or general viability. Particular characters are thus the products of a number of germinal factors, and in selection experiments characters may be modified, not through any change in the factor or factors to which the character in question is mainly due, but to changes in other modifying factors whose chief influence is upon quite different bodily structures.

The development of any character is dependent upon a number of elements in the germ plasm. We can no longer speak of a localized determinant of a character in Weismann's sense, as a particle of the germ plasm which produces the character much as a seed gives rise to a plant. The term, unit character, so frequently employed a few years ago, is being replaced by the expression, unit factor. And there is reason to believe that not only is every character the result of many unit factors, but that every unit factor may influence to a greater or less extent a multitude of different characters.

What is now known of variation affords little support to the doctrine of orthogenesis according to which variations are prone to keep on accumulating quite independently of selection along definitely directed lines. Variation in any one direction apparently has not the least

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effect upon the direction of the next variation that makes its appearance. Variations have been accumulated along particular lines in the past, as has been abundantly demonstrated by series of fossil forms, and in some cases the changes in structure have been so gradual as to preclude the occurrence of mutations of any considerable extent. But it is quite possible to account for such development by the theory of natural selection. The fact of evolution along specific lines tells us very little of the causes by which such changes have been brought about. Orthogenetic development in the etymological sense of the term may be a fact, but that does not prove that living beings possess any inherent tendency to evolve along straight lines.

I have already alluded to the divergent views regarding the potency of natural selection. While one may argue indefinitely as to whether natural selection can or cannot account for this or that structure, the status of the theory has become, I believe, more firmly established than it was in the time of Darwin. Whatever one may think of the adequacy of natural selection to account for the evolution of organic life, there can no longer be any doubt that organisms are preserved or eliminated on the basis of differences of hereditary constitution. The studies of Weldon on Carcinus and Clausilia, of De Cesnola on mantids, of Bumpus on the English sparrow, of Davenport on birds, of Tower on potato beetles, and of the Morgan school on Drosophila, have shown the actual operation of selective elimination, and the studies of Pearson, Ploetz, MacDonald, and various other investigators of the selective death rate in man indicate that, notwithtsanding our advances in medicine and hygiene, natural selection continues to operate with considerable vigor. The reproach of Lord Salisbury in regard to natural selection that "No man has ever seen it at work" has now been definitely shown to be without foundation.

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It must be borne in mind, however, that natural selection is at best only a proximate category of explanation. It is a general term for a multitude of processes which bring about a differential death rate. The old objection so often advanced with an air of novelty that natural selection does not account for variation may be admitted without reserve. Darwin, who was under no illusions in regard to this point, never attempted to explain variation by natural selection. The occurrence of variation is made one of the presuppositions of his theory, and, for aught that Darwin could see, and for aught that we can see now, variations are pretty much haphazard occurrences. They arise no one knows why, and no one can foretell when. When they appear they are subjected to the action of many forces within and without the organism—forces whose action is generally indirect and in many cases obscure—and the fittest survive, and we call the procedure natural selection. According to the theory of natural selection then, the causes of evolution are the agencies, whatever they may be, which cause the hereditary qualities of organisms to vary, and the agencies which favor the elimination of certain variations and the preservation of others. When we have explained evolution in terms of natural selection, therefore, we have made only a first step, although from certain points of view a very important first step, toward a final explanation.

Considering the fundamental importance of the problem, it is surprising that very little investigation has thus far been devoted to the discovery of the causes of variability. We may count on the fingers of one hand the researches of any importance bearing on this topic. Tower has claimed to have obtained variations in the offspring of potato beetles by subjecting the parents to different conditions of heat and moisture during the maturation of the germ cells. Stockard has induced what appeared to be true hereditary variations by subjecting

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guinea pigs to the fumes of alcohol. A few other suggestive results have been obtained with higher forms, but what has been accomplished scarcely represents even a good beginning upon the problem. More success has been attained in the induction of variability in unicellular organisms, especially the bacteria, but the relation of the variation produced in these forms to the congenital variability of higher types is a matter of dispute. Much of it, apparently, is akin fundamentally to the somatic variability of multicellular organisms, and its transmission may be due to quite other causes than those by which the inheritance of higher forms is determined.

Discussion of the nature and causes of variability naturally recalls the address delivered by Professor Bateson on the occasion of his presidency of the British Association in 1914. Professor Bateson, the leading English exponent of Mendelism, took as his theme a general survey of recent work in genetics. He pointed out the fact, now amply demonstrated, that much of what had heretofore passed as variability is merely the product of crossing and the subsequent segregation of characters in various new combinations. The appearance of novelty in these variations is, as Professor Bateson assures us, quite illusory. Most apparently new forms are just the kaleidescopic combinations of old elements in new patterns, adding nothing that is really new in substance. Professor Bateson held, however, that not all variation was of this kind. This extreme view had been developed by the Dutch botanist, Lotsy, who, being impressed with the multitudinous variation obtained by crossing distinct types, and by the ways in which variations really due to crossing many generations back appear to arise *de novo,* attempted to account for all variation, and hence the whole process of evolution, as the result of varied combinations of germ plasm produced by hybridization. But Bateson, alive to the weak points in Lotsy's position, and perceiving that there is

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scarcely any reasonable way of avoiding the admission that real variation occasionally occurs, looks upon variation in a way very different from that in which it was regarded by Darwin. He assures us that

> variation from step to step in the series must occur either by the addition or by the loss of factors. Now, of the origin of new forms by loss there seems to me to be fairly clear evidence, but of the *contemporary acquisition* of any new factor I see no satisfactory proof, though I admit there are rare examples which may be so interpreted. We are left with a picture of variation utterly different from that which we saw at first. Variation now stands out as a definite physiological event. We have done with the notion that Darwin came latterly to favor, that large differences can arise by accumulation of small differences. Such small differences are often mere ephemeral effects of conditions of life, and as such are not transmissible; but even small differences, when truly genetic, are factorial like the larger ones, and there is not the slightest reason for supposing that they are capable of summation.

The hypothesis that variation is due to the loss of something in the germ plasm is carried out to its logical conclusion. In speaking of the colors of sweet peas he says,

> There is no question that these have been derived from the one wild bicolor form by a process of successive removals. When the vast range of form, size, and flavor to be found among the cultivated apples is considered, it seems difficult to suppose that all this variety is hidden in the wild crabapple. I cannot positively assert that this is so, but I think all familiar with Mendelian analysis would agree with me that it is probable, and that the wild crab contains presumably inhibiting elements which the cultivated kinds have lost.

Thus progressive variation and even dominant characters represent no real additions to the germinal complex; they are due simply to the removal of inhibitory factors. "I have confidence," Bateson continues, "that the artistic gifts of mankind will prove to be due not to something added to the make-up of an ordinary man, but to the absence of factors which in the normal person inhibit the development of these gifts. They are almost

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beyond doubt to be looked upon as *releases* of powers normally suppressed. The instrument is there, but it is 'stopped down.' "

Great intellectual genius might be considered as mediocrity minus a factor for the inhibition of intellect; and to carry the theory out consistently, the ordinary man may be conceived to owe his intellectual status to the removal of a factor for feeble-mindedness which may have suppressed the latent abilities of his pre-cave ancestors. What possibilities for future development may lie before us if only the process of subtraction be carried sufficiently far!

The point of view developed by Professor Bateson, which some were inclined to believe he did not wish to be taken quite seriously, was soon afterward taken up by Dr. C. B. Davenport, director of the Station for Experimental Evolution at Cold Spring Harbor, and head of the Eugenics Record Office, who put forward, apparently in all earnestness, the view that our remote protozoan ancestors were much more complex in their chemical composition than the germ plasm of the higher evolved types of today, which owe their rise to the successive losses of inhibitory chemicals.

Such pronouncements from leading investigators of Mendelian heredity, reminding one as they do of the extravagances of the preformation theories of Leibnitz, Haller, and Bonnet in the seventeenth and eighteenth centuries, naturally somewhat startled the public, as they were doubtless intended to do. Professor Bateson, who for many years had been somewhat restive under the rather unsatisfactory state of evolutionary speculation, finding in the recently opened field of Mendelian inheritance opportunities more congenial to his powers than the laborious compilation of meristic and substantive variations, had thrown himself into the work of Mendelian analysis with signal success. In his position as leader of the English Mendelians he doubtless derived a

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peculiar satisfaction in wielding his iconoclastic club. No one can really understand the address before the British Association which has perplexed so many people, without reading much between the lines, and without making an allowance for the effect of certain instinctive proclivities of human nature, which are not without considerable influence in shaping the standpoint even of highly trained scientific men. Bateson committed, I believe, the very human error of attributing to recent discoveries in Mendelian inheritance, in which he had taken so prominent a part, an importance for evolutionary theory far beyond what they really possessed. There is nothing in Mendelian inheritance that gives the slightest indication of what is the nature of those factorial changes upon which the appearance of so-called unit characters depends. That even recessive characters are due to loss is a perfectly unwarrantable assumption, and that dominant characters arise as a result of losses in the germ plasm is a conclusion for which there is not a shred of real evidence. It is somewhat remarkable that Professor Bateson should have presented addition and subtraction as the alternative methods of factorial changes, and that he should have failed even to mention the possibility of factorial modification or transformation, which would seem *a priori* to be a very probable occurrence. The dilemma in which he represents evolutionary theory as being placed through recent discoveries in heredity and variation is one which is entirely fanciful and depends upon reading into nature a purely artificial and symbolic interpretation.

The discoveries in the few years that have elapsed since the publication of Bateson's address have not only failed to strengthen the paradoxical position there set forth, but have afforded positive evidence of its unsoundness. In the first place, the discovery of what Morgan calls multiple allelomorphs has created serious difficulties for the "presence-absence theory" upon which Bateson relies and has lent strong support to the view

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that Mendelian characters are due to factor transformation instead of merely gains or losses. Recent work has afforded further and critically tested evidence of the origin *de novo* of dominant characteristics. It has shown that recessive genes occasionally mutate to form dominant factors. In fact there may be a whole series of changes in what the evidence indicates is a single gene. Recent work has also furnished additional evidence of the effectiveness of selection in gradually accumulating differences as well as in revealing more clearly the precise method by which such results are brought about. We are by no means "done with the notion . . . . that large differences can arise by accumulation of small differences." In fact, it has been repeatedly demonstrated that relatively large differences have been formed by this very method. It is becoming clearer that species in a state of nature differ by a multitude of factors for relatively small differences, and that, since there is not the slightest observable tendency toward simultaneous mutation in different genes, these species must have arisen by a succession of small steps. The mutation theory of de Vries has had to be seriously modified, and has been brought more nearly in accord with the conception of the origin of species by the gradual method as outlined by Darwin.

When we look back upon the progress that has been made in genetics during the past twenty years, we can scarcely fail to recognize the period as one of substantial achievement. The method of evolution has come to be less a matter of philosophical speculation and more a subject for attack by the methods of experimental inquiry. The present is a period in which fruitful researches are being vigorously prosecuted along a number of lines bearing on the central problem. We may or may not be near the dawn of any great and epoch-making discoveries. But a steady advance is going on over a wide front, which no doubt will lead to the ultimate conquest of positions of capital importance.

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THE GOVERNMENT OF UNIVERSITIES

W. A. Merrill

The American university has had a disorderly and fortuitous development from the germ of the English college. Harvard College was modeled after Emmanuel College in Cambridge, which was governed by a president and fellows, and Yale followed the precedent of Harvard. In the English system the university was the degree giving body and represented the general interests of the academic community with reference to the Crown and the public. The college housed and fed its students spiritually, materially, and intellectually, and prepared them for the university tests for degrees. Thus the college and not the university was the *alma mater*. The university controlled the student whenever he was beyond the college gates. Each college managed its own affairs, usually in accordance with a charter granted by the Crown, and was subject to official visitation when there was ground for suspecting violation of charter provisions. The head of the college had various names—president, warden, provost, master, rector; and American colleges have used one or the other of these titles for the designation of their principal officer. The corporation of the college included the fellows who conducted the business of the foundation, and who might or might not do the teaching; and there were students supported by the endowments, and these were known as scholars, postmasters, demis, and by other strange titles. The direct responsibility for the instruction was given to tutors and lecturers, who were usually fellows.

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In Canada there is a University of Bishop's College, a title that to us seems strange, but one that is logical and correct, for the university of a college is a college that has the power of a university, that is, a college that confers academic degrees. The university has no etymological connotation of universality of instruction; it is emphatically not a place where everything is taught; it does not necessarily include several faculties: it is merely a corporation whose function is the fostering of learning and the granting of degrees; it is a literary corporation, *universitas litteraria;* it can confer any degree whatsoever, and many a university has created doctors of law and divinity that has never given instruction in such subjects. The college was a guild of learned men who lived together for mutual convenience. The instruction in the university was given by professors and ordinarily through lectures; strictly speaking a college could not have a professor, for the professor was a public teacher like a preacher. But the university might do no teaching whatever, as is the case with the Royal University of Ireland at present and of London University at one time. It is interesting to note that Harvard from the earliest times has been described indifferently as a university and a college. It was a university because it granted degrees, although its corporate name was the President and Fellows of Harvard College.

With the growth of the country, new educational foundations were rapidly established; but, instead of organizing on the English model, the corporation that owned the property and was clothed with the government of the college was often called a Board of Trustees, as the fiduciary character was most prominent in the public mind. Just as in medieval times the legal college was the corporation made up of head and fellows, so the legal entity in America was known as the "Board." These trustees constituted in effect as well as in law a university, for they alone had the power of conferring degrees.

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The measure of control actually exercised by such boards varied from a merely nominal ascendancy, such as is said to exist at present at Oberlin College, to a detailed and minute oversight that left little independence to the faculty.

The college in the United States was primarily a *studium generale,* that is, a place open to all qualified students, and general and not local in respect to their place of residence and their studies. The first and foremost need was a seminary for providing a supply of adequately trained clergy, and, as at Oxford, no special theological instruction was given elsewhere. Teaching was a privilege of the Church, and the education desirable for clergymen did not differ materially from that suitable for future teachers. But, as society developed, preparation for other professions became necessary. The training of future lawyers and physicians was at first irregular: one learned his trade by practicing it in a lawyer's or physician's office and by following his preceptor on his rounds; and soon this was supplemented by a brief course of lectures in schools that were independent and were unconnected with colleges. For many years the college confined itself to a course of study that was general in its nature and whose end was literary and philosophical culture. It was thought, strangely enough, that the future lawyer, minister, or doctor should be trained in polite learning, and that the future professional man should be first of all an educated gentleman: the preparation was aristocratic because the learned professions constituted an intellectual aristocracy.

The internal government of the college was very simple. The students pursued the same curriculum that was minutely prescribed for all, and they never exceeded a few hundreds in number. Consequently they were known personally to one another and to the members of the teaching force. The faculty was small, counting

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anywhere from two to a dozen members. The president was the father of the students and elder brother of the professors, and exercised parental discipline. The little business that came before the faculty was simple and speedily transacted. There was no problem of internal government any more than there was in the average private family. Indeed the chief burden of both president and faculty was the begging of money and winning of friends and supporters for a struggling institution.

Meanwhile, as time went on, the colleges began to grow in the numbers of faculty and students and new types of instruction were introduced in subjects previously excluded from the early curriculum. And with the introduction of new subjects and new men to teach them the unity of the faculty was threatened. No longer had all professors been subjected to identical intellectual influences. No longer was it possible for the faculty to be of one mind in regard to collegiate problems that were continually emerging as the variations in the students' intellectual condition and in their future vocations became more and more apparent. The classics, mathematics, and Scotch metaphysics, with what was called natural philosophy, no longer satisfied students nor commanded the support of the entire faculty. Hebrew was the first to go; then there was the long contest between the ancient classics and natural science, followed by the aggressiveness of the historians, economists, and sociologists. The college curriculum was progressively broadened; and finally anything that anyone wished to study or to teach that did not fit into a professional curriculum was added to the educational menu. During this period of development the faculty continued to conduct the internal government, and even if the routine administration was given over to committees, the faculty held the committees responsible to itself, as it also was responsible to the "Board." The family was large, yet settled its own family quarrels.

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In various parts of the country, especially beyond New England, the name university came into use as new establishments were erected. Without doubt, the term university was regarded as having greater significance than that of college, and not a few of the new academies were called universities in the hope that in time they would become strong and dignified foundations. But another principle was at work that probably can be traced back to continental and especially French influence. This was manifested particularly by Thomas Jefferson and the University of Virginia. It is not an accident that the influence of the Old Dominion on the West and Northwest should be shown in educational as well as in other policies. The Scotch-Irish stock regarded rather the Scotch universities than the English foundations as precursors, and the Scotch universities resembled the universities of the continent of Europe to a greater degree than did Oxford and Cambridge. The fully developed continental university had at least four faculties —the superior faculties of Theology, *regina scientiarum*, Law, and Medicine; and the inferior faculty of Arts or Philosophy. The Arts faculty was inferior because it was "below" the others in point of time so far as the student was concerned; in our academic jargon, graduation by the Arts faculty was a prerequisite to admission to instruction by a superior faculty. This conception of a university as an institution containing more than one faculty spread rapidly; and little by little the independent schools of Law and Medicine were attached to universities, at first by a merely nominal bond, for the degree was conferred by the university; but in all other respects the professional schools were independent, and (this is most important) had no claim on the university funds. The foundation of new state universities and colleges under the Morrill Act of 1862 gave a great impetus to this movement. The Morrill Act placed Agriculture and Mechanic Arts in the first rank of

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importance, and many of the new institutions found themselves at the start confronted with the task of providing for two different classes of students, namely, the agriculturists and the college students of the old order. Too often the problem was solved by ignoring the agriculturists, but their influence was so strong and their cause so just that in time their interests received due consideration. The university faculty was composed of people with little intellectual sympathy and understanding with one another. In the larger universities there was not only the strife between the agriculturists and the "artists," but Engineering, Architecture, Mathematics, Law, Medicine, Music, Fine Arts, Commerce, and even Theology were represented by their ardent partisans, all convinced of the importance, nay the supremacy of their subjects, and all determined that adequate financial support should be provided for them in the division of spoils. The ultimate governing board for these new universities was usually called by the name of Regents, for in the medieval university the government resided in the regent masters of arts, that is, in those who were resident and teaching in the university in distinction from the non-resident masters. The University of Michigan had adopted this title for its governing board long before the foundation of the state institutions under the Morrill Act, and not only in this but in many other ways its influence on higher education in the West has been profound.

The problem of internal government had now become complex. How could the professor of Sanskrit, the professor of Music, and the professor of Veterinary Science be expected to agree in matters of educational policy? And to what extent should the professor of Hebrew dictate the method and conditions of teaching Domestic Science, and how far may the professor of Engineering go in controlling the professor of Medicine? Whatever unity was possible in the university as a whole was found

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to be with the Regents: they alone were sufficiently disinterested to be able to survey the whole problem and to allay discord. And yet the members of the ultimate governing board were unable to give the necessary time and thought for the solution of university problems, and they were often modest enough to disclaim their own competency for such perplexing tasks. The inevitable result was that they looked to the president of the university to perform their own functions. The president became the executive agent of the Board: the government of the university became monarchical; and the Regents approved as a matter of course all the recommendations and provisional acts of their agent. If the president proved unsuccessful in carrying his tremendous burden he was often ejected with little ceremony and another put in his place. One of the most successful of presidents of this type warned all aspirants that the presidency was a rocking chair.

Of course such a condition of things could not last. It was in its nature unstable. The president became the target for adverse criticism by students, faculty, alumni, the general public, and the Board. As the president was given credit in the public mind for all improvements, so he was held responsible for all misfortunes in university conditions. For his own sake as well as for the health of the academic community a change became imperative. But what philosophy should underlie the change? Was the university a democracy or a republic? Democracy was an ideal dear to many, and it was certainly desirable that every member of the university—even the students—should have a voice in its government. The old New England town meeting had been efficient. There every freeman had opportunity to influence legislation and administration. But as the towns grew into cities this pure democracy broke down. There was a limit to the number of people that could meet together in one room for the practical transaction of

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business. The other theory was that of representation: when the political body was overgrown, delegates were appointed to govern in the name and with the powers of the parent body. As the Roman jurist said "in tanta turba hominum necessitas ipsa curam reipublicae ad senatum deduxit." This analogy was followed in university government, and in the larger universities a division of powers and functions was brought about. The first step was the separation of the legislative and administrative elements. Certain routine business claimed attention, and administrative officers were multiplied until an academic hierarchy of deans, directors, secretaries, superintendents, registrars, and what not was established. These persons were supposed to execute the laws made by proper authority. They were often combined together into an administrative board, and like all functionaries, they assumed through interpretation to establish new legislation. Undoubtedly administration became efficient, but with increasing jealousy of the administrators.

Another differentiation also became apparent, namely, into faculties. The original faculty of arts outnumbered all the others and found difficulty in yielding up its historical control of the whole institution. But as the lawyers and the medics joined the academic circle, they were reluctant to submit themselves to any superior authority. They had previously managed their own affairs and paid their own bills, and, unconsciously perhaps, they represented "superior" faculties and were intolerant of criticism or interference from the "inferior" faculty. Their professions were "mysteries," unintelligible to the laity, as they were pleased to call other people; and they repudiated any competency of oversight beyond their own number. Yet by becoming corporate parts of the university and sharing in its honors and prestige, and most of all in its funds, it was fair that they should be controlled in some degree. And

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in a measure the attitude of the new and emerging professions was the same. In most universities a compromise was adopted: the faculty was supreme in its own affairs yet might be overruled for cause by a higher body, but the veto was reciprocal. The professional faculty could not be ordered about recklessly by doctrinaires in the superior body, nor yet was the faculty entirely independent. Its decisions and policy were subject to review and disapproval by the university at large. This equality of powers has proved vitally necessary, for although specialists need sometimes to be curbed, yet ordinarily they are the best judges of their own functions. They should be given liberty within very wide limits and be held responsible for results; but at the same time their interference with the problems of other faculties or of the university as a whole should be restricted. And so, with quasi-independent faculties and administrative boards and Regents, there was still necessary some contrivance by which the mature judgment of the entire academic community might be expressed, and this problem is still unsolved. Many interesting experiments are being made. A very few of the large universities are endeavoring to continue the old democratic régime: all the instructors and administrators are combined into a Senate or General Faculty which jealously retains its power of overruling everybody except the Regents. This method, of course, breaks down whenever the General Faculty grows to any considerable size, for the same reasons that the New England town meeting has broken down. There is too much business to be transacted, members stay away from the meetings, those present can not know the details of business which they are asked to approve, the work falls into the hands of a few, the actual attendance at the meetings varies constantly, thus causing violent inconsistencies of action, and the only people who have any adequate knowledge of what is going on are the members of the committees who bring in proposals.

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The meetings are so brief and infrequent that, necessarily, when time is taken for thorough discussion of one subject, many others are considered hastily and some measures passed with no discussion at all. The final result is that a well disciplined minority comes into control and democracy exists only in name.

Granted that some superior body is necessary to secure the interests of the whole institution, as is the case for example at Chicago, Illinois, Nebraska, and Stanford, the question as to the size of this body is next to be considered. The prevailing tendency is toward a limitation in numbers. The name most commonly chosen is "Senate," in which the president is always the presiding officer. At Chicago the Senate consists of all professors of full rank; at Illinois, of all full professors and all persons who are in charge of departments; at New York University, of the deans, one professor from each faculty and certain advisory members from affiliated institutions; at Northwestern, of the deans, directors, and certain elected members from the faculties; at Columbia, of deans, directors, and representatives from the faculties; at Kansas, of the deans, directors, and professors and associate professors; at Stanford, of professors, associate professors, assistant professors of three years standing, and others determined by itself; at Nebraska, of deans, heads of departments and others named by the Regents; at the Catholic University, of delegates from the faculties. The tendency seems to be toward a preponderance of administrative officers, and undoubtedly these functionaries are best acquainted with the problems that press for solution and they alone have a first-hand knowledge of the practical working of the university regulations. This predominance is increased in some institutions by erecting the administrative members of the Senate into an administrative board which has power to act provisionally in the Senate's name. The

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inevitable result is a concentration of power and the influence of the administration becomes too great. The administrative board should enforce rules but not make them.

Another plan is that of University Councils. These councils are set up to consider matters that concern two or more faculties or the university as a whole. Their function seems to be limited, as a rule, to the giving of advice. Their membership is usually composed of administrative officers and delegates from the several faculties. At Harvard, for instance, the University Council considers questions which concern more than one faculty and questions of university policy. There is little evidence of the success of these councils; as a rule, they are without legislative power and merely pass on suggestions to the lawmaking bodies of the university. There is ground for the belief that they frequently have merely a theoretical existence. A debating society without power to enforce its decisions does not appeal to strong men.

There seems to be a marked tendency to independence of the separate faculties within the limits of their commissions, and to a superior board of limited membership, and also to a predominance of power of administrative officers. Such a system leaves the ordinary member of the faculty without power or influence in academic policies. I have already proposed a remedy in an earlier number of this journal. The analogy of our State and Federal governments may be wisely followed. The Regents are the Supreme Court, the faculties are the States, and the Senate, limited in membership, is the Congress. Democracy grows into republicanism, and representation takes the place of direct legislation. But here in California we have developed the initiative and referendum, and I would have the private academic citizen clothed with similar power to initiate new policies and to delay or annul legislation that has been made by

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his representatives. There are many professors who have a distaste for all faculty politics, who loathe administrative duties, who shun faculty meetings, and who long to give themselves wholly to study and teaching. Such men desire to place the government of the university in the hands of colleagues who possess their confidence, yet they feel that there should always be the latent power of intervention. They hope that the necessity for such action may not happen and that their scholarly peace may be unbroken; but the possibility of such intervention may well be a curb on the acts of legislators and administrators.

Whatever the original meaning of the word university may have been, it is now a whole made up of parts: The task of every university is unity in diversity, freedom for all and wise oversight and control by all, efficiency in administration, wisdom in legislation, democracy in opportunity, and temperance in action. Whatever ability the young members may possess in advancing the corporate interest ought to be developed and used; nor should the older men with their weight of experience be rejected from counsel, nor the administrative officers with their superior knowledge of the actual condition of things be disregarded. Any scheme of university government that fails to profit by adequate employment of all these factors is fundamentally unstable and will inevitably prove unsatisfactory.

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All men agree that the century which began with the Age of Pericles was the Golden Age of the human spirit. There agreement ends. No two give the same answer if asked what were the causes. To take one or two examples from a possible hundred, Mr. Wells is inclined to give the lion's share of the credit to Aspasia. Not long ago we heard—and saw—a lady with a penchant for the plastic demonstrate that the Greeks owed their mighty achievement to a knack of plucking up their diaphragms in just the proper way at crucial moments. If you read the Sunday supplements, you know it was because Pericles possessed "the subtle principle of success"—and you wonder did he "Send no money," or are we on the track of that little shortage in his accounts that once so mystified Thucydides? But enough—those who have looked upon the Greater Mysteries know that Athens owed her greatness to her Phrontistery. It was not merely that she had a Phrontistery, but because that Phrontistery was like the leaven in the loaf, like the Singing Bird in the eastern fairy tale, or like the loaves and fishes that fed the multitude. Its spell was upon the whole city, and every spot where men gathered together to converse was penetrated with its spirit. Even by the tables of the money changers men sat and heard not the clink of golden coins, for their ears were filled with the speech of the Master and their souls were athirst for the True, the Good, and the Beautiful.

So let us set up the tabernacle within our midst, and devoutly hope the miracle may be repeated. Let it be a foundling home for poor little ideas that can find no other homes, little baby ideas that have no hope of ever dwelling in stately volumes all

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their own or even of finding corners for their cowering forms in our exclusive literary apartment-houses, so filled with the majesty of the élite of letters that the sign must be hung out "No children or dogs." Perchance it may some day save from an untimely end some poor little idea in swaddling clothes that will grow up and live to serve a worthy cause.

* * * *

That first ancient Phrontistery, which is to be the device of this great undertaking, Perham W. Nahl has sketched for us. Perhaps in some former life, as Zeuxis, or Parrhasius, he paid out his good obols to see brought upon the scene the very incident he here depicts so sympathetically.

* * * *

A happy Wanderer in a land where mountains match their grandeur with the beauty of the sea had flung himself upon a sunny ledge. To his right, above a glistening scaur of serpentine, rose a somber, rugged peak. From it descended ridges, harsh at first and bleak where they outlined themselves against the sky, but softening to a succession of sloping downs and rounded knolls, with here and there a dark clump of weird, gnarled, storm-swept trees. They were such downs as lie in that strange world of romance where none do dwell but goodly knights and fair enchantresses, or mayhap foul witchwives, or dwarfs, or lusty churls. Still further down a dark green forest clothed the walls of vast ravines. To the left, the ocean showed a wondrous blue that only the north wind brings. Beyond, a billowing sea of fog, like a vast, shifting snowbank, stretched to the distant sky; it rose and fell, and from it licked up slender wisps that fought against the wind and for a moment flecked with white the deep blue of the sky before they vanished.

Round about the ledge midsummer reigned with lazy warmth; on the hot rocks basked lizards, little dry, dusty creatures that love the sun; a sparse growth of stunted bushes, dry and dusty, too, scarcely flecked with shade the hard-baked earth around their roots. Even the insects that flitted in the sun were dry and dusty and made harsh, metallic sounds; such creatures might Daedalus have fashioned in a playful mood from iron or brass to be the toys of baby gods.

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A step or two below, and all was changed. There stately trees shaded with sweeping frond dim, cool recesses, softly carpeted with moss and yielding litter, in which the forest noises died away. The cool, moist air was scented with bay and evergreen and with the faint fragrance of dainty, slender blossoms that nestled underneath the spreading ferns. But for the joyous trilling of a bird perched in the sunshine amid the topmost branches, there was no sound, save only the gentle drip of water from an overhanging bank and the soft music of a tiny stream, as it plashed over mossy boulders or tinkled into still, dark pools. Downward and ever downward it made its way until it found the cañon floor, where giant redwoods reared their dark green spires, a Titan brood of Earth, born in those far-off times when Kronos ruled among the Men of Gold.

Above, upon his sunny ledge, our Wanderer lay and peered into the quiet depth, following with his gaze long shafts of sunlight where they pierced the heavy fronds and dotted the dark ravine with patches of soft radiance in which the madrones gleamed. With just such radiance, in the Days of Gold, did Titan's wandering beams bathe the soft limbs of woodland nymphs and spy upon the charms of lissome naiads in their shaded pools. As he gazed, he pondered what men have gained —and lost—through all the centuries, and wondered dreamily about those creatures of a new-born world, blithe spirits of mountain and woodland and stream. Whither have they fled for refuge from this age of Iron and Steel?—the hamadryads and the water nymphs, the lithe brown satyrs that followed in their train, and the fat sileni? Do they still live in forest and in stream, unheard, unseen of mortal men? Are our eyes blinded with much gazing upon coinéd gold, our hearing dulled by constant clang of steel and iron, that we hear not their silvery laughter nor see their unsubstantial forms? Or did they cease to be that time when great Pan died and left a world that followed newer gods?

By the Wanderer's side the bushes rustled. Then silently, as steps the wary doe into the open meadow from the brush, a slender, girlish figure, trimly clad in brown, came forth and stood upon the ledge. Brown eyes laughed frankly into his; graceful, sunburned fingers drew back a gleaming wisp of hair from the flushed cheek, soft as damask but faintly bronzed;

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a girlish bosom rose and fell in eager gasps to drink the mountain air, the sunlight, the whole glorious day. Then from below a burst of silvery laughter blent with joyous cries, the tramp of feet, the noisy rending of the chaparral, and a merry band of boys and girls sprang out upon the rock. A moment more and they were gone, darting along the trail, their happy uproar lost in the next ravine. But now the Wanderer knew. The gracious nymphs die not. They are born again, and live, beloved of the gods, to haunt the mountains and the woodland trails; the lithe brown fauns still follow in their train with merry laughter, and somewhere far behind the fat sileni toil. G. M. C.

* * * *

Woodrow Wilson has left the political stage. His was for a season the central and most dominating personality in a world comprising all the known continents. His voice was the voice of authority and his judgments on political issues acquired a sort of moral finality. And now Woodrow Wilson is a lonely and tragic figure whom to belittle and deride has come to be the fashion of the day. Yet his tragedy is not one of circumstance. It is a tragedy of character. The circumstances which gave him power and prestige proved not unyielding to his daring statesmanship. The greatest war in history sweeping on, so it seemed for a long time, uncontrollable as a cyclone or a tidal wave, obeyed for a while his political genius and under his moral leadership assumed spiritual form and direction. His passionate resolve to transform the destructive force of war into an instrumentality for the regeneration of human society exhibited the rare strength of one refusing to be overwhelmed by the power of stark circumstances. Had he continued his moral defiance of brute force he might have come very near achieving his great ideal. But in the end he succumbed to the fate of events and surrendered his mastery over them. At the most crucial moment his character showed itself to be marred by grave defects. He evinced a lack of faith in his own ideals which should have been strong enough to move mountains and a want of courage to fight for them which should have been heroic enough to face failure. He stooped to compromise. And a compromise born of a faith that is half-hearted and a courage that

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is infirm was in the end the fruit of Woodrow Wilson's immaculate conception of a new world order. It was a great statesman who with fearlessness and eloquence proclaimed a new charter of liberty for a stricken world; but it was a timid politician who assisted in the forging of new chains for sorrowing humanity. So at least it appears to a contemporary observer. In Woodrow Wilson we seem to have all the elements of a classic tragedy: a truly great man with a truly noble vision and purpose involved in a gigantic catastrophe, helpless to avert or to change it through some fatal flaw of character or some gross error in conduct. What a theme for a Sophocles or a Shakespeare! Woodrow Wilson the statesman, such perhaps will be the verdict of history, went down to defeat slain by Woodrow Wilson the politician. J. L.

* * * *

WHAT WE KNOW ABOUT EARTHQUAKES

Professor H. F. Reid, of Johns Hopkins University, summarizes our knowledge of earthquakes in a recent number of the Proceedings of the National Academy of Sciences as follows:

Nearly all earthquakes are due to the sudden fracture of the rock of the earth's crust, which has been strained by slow earth movements beyond its strength. Strong vibrations are set up at the fractured surface at the time of the fracture, just as vibrations are set up whenever any solid is broken. The earth consists of solid material, which is necessarily elastic, and therefore these vibrations are transmitted through it as elastic waves. There are two kinds of elastic waves: normal waves, where the movement is in the direction of propagation, and transverse waves, where the movement is at right angles to the direction of propagation. These two kinds of vibration advance with different velocities. Their velocities near the earth's surface are about 7 and 4 kms. per second, respectively; but the deeper they penetrate below the surface the faster they go. Therefore, from the characteristics of elastic waves their paths are curved and concave upwards. These important results have been obtained by a study of the time necessary for the two types of waves to pass from the place of their origin to stations at different distances, where delicate instruments are installed which record the time of their arrival. It may seem remarkable that the paths followed by the waves and the velocity in different parts of the paths could be determined merely from the time required to

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arrive at a number of places on the earth's surface; but, by the help of some rather abstruse mathematics, it can be done. One interesting conclusion which can be drawn from the passage of the transverse waves through the body of the earth is that the earth is a solid and not a liquid sphere; for transverse waves can be transmitted only by solid substances.

There are other waves which are transmitted along the surface of the earth; they must be started in some way when the body waves, mentioned above, arrive at the surface, but we do not know just how near the origin their starting place is.

In many instances submarine earthquakes give rise to great water waves, which have been known to travel from one side of the Pacific Ocean to the other. It has been the general belief that the first indication of these waves along a coast is marked by the withdrawal of the water; and the great elevated wave follows. Although this order is certainly frequent, it is not general, and in many cases the elevated wave is first to appear.

This is a very summary sketch of what has been learned about earthquakes in the comparatively short time that they have been systematically studied; but it will serve as a basis from which to point out the problems which are now pressing for solution.

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LUNA

From an etching by Mr. Perham W. Nahl.

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POEMS BY PASTONCHI

Paraphrased by ANNE GOODWIN WINSLOW

CONTEST OF THE FOUNTAINS

(TENZONE DI FONTANE)

Fountain of Rosello!
There are twelve throats that spill your crystal song
(Praise of the fairest must to you belong),
Twelve gushing throats there are that pour your pain,
But in my heart the anguish must remain.

Fountain of Ploaghe!
From the cool rock your living waters spring
(Fame of the purest must about you cling),
You drop in bounty down the mountain side,
But in my heart the hot thirst must abide.

Fountain of Rosello!
The marble throats that spill your waters free
Can give no drop to me.

Fountain of Ploaghe!
The rocky bosom where your waters live
To me no drop can give.

Fountains of earth, you have no mossy brink,
No crystal pool where Love may kneel and drink
A draught to quench the fire
Of his unspent desire!

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THE MOON HAS SET

(TRAMONTATA È LA LUNA)

The moon has set; the meadow and the wood
That in enchantment stood
Shake off the spell and waken with a sigh;
The stream is one low cry.

From far there comes the sound of flying feet,
A pause, then once again that gallop fleet,
Beyond the poplars and the shadowy dune,
Toward the departed moon.

Is it some lover whom she lured before
With love by hill and shore,
Whom now she flies and who pursues her still
With love by shore and hill?

A SONG OF RETURNING

(CANZONE DEL RITORNO)

Now with nightfall on the plain
The shepherd homeward brings his flock again;
I think he loves so well his tranquil lot,
Even death shall change it not;

Because when he is old,
Because when he is old and weary grown
Of the long wanderings on the mountains lone,

He'll slip beyond the bars
Of earth and in the fold,
And in the fold of heaven
A flock of little stars
Shall to his care be given,

And he shall roam the airy fields on high
Herding his lambs through the eternal sky.

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A MODERN MADRIGAL

(MADRIGALE MODERNO)

Time that has clipped the marble cupid's wings
In this old garden he adorns no more,
Has touched the poet, too; no more he sings
The madrigals of yore.

Gone are the graceful speech and gallant air;
The age is rude and tramples where it will;
No more to courtly hearts doth love repair,
But to the closed and still.

Whence I, who may not dare to let my eyes
Be veiled with sentiment's suffusing tears,
Nor my lips breathe the gentle flatteries
That fitted gentler years—

I who may wreathe no praises to entwine
Thy name nor vows of adoration make
Superbly stand and let a heart all thine
In bitter silence break.

TO THE SUN

(AL SOLE)

Sun, from this rock that still assails the sky
With howlings of wild winds that never die,
High limit to the feet of mortal things
Beyond which only dreams and eagles beat their wings,

I face you, equal, for the power is one
That hurled us forth our different tracks to run,
Yours of eternal light in heaven made,
Mine in the shadow where I move, myself a shade;

Nor do I envy your refulgent lot
Who steeped in light may comprehend it not,
May love not nor rejoice, nor know that we
Are but two specks of dust upon immensity!

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THE INTELLECTUAL INTERESTS OF UNDERGRADUATES

JOHN S. P. TATLOCK

The Association of American University Professors some five years ago established a committee on Causes and Remedies for the Alleged Decline in the Intellectual Interests of College Students, a title changed later to Methods of Increasing the Intellectual Interests and Raising the Intellectual Standards of Undergraduates. Whether the American university does all it might to send persons intellectually alert and equipped into the society it serves must be of interest to thoughtful members of that society. The subject is so wide and deep, so ramifies, that this treatment of it is meant to come in a questionable shape, to be interrogative in mood rather than declarative; to express the temperate spirit of a historian, and a healthy skepticism about much that has been said on the subject.

The phrase Intellectual Interest and Standards of Undergraduates must be understood primarily of free and spontaneous mental activity. The problem is not identical with that of students' work for their courses. Scholarship in courses often is not due to a student's intellectual interest, but to a desire to secure training for a future livelihood. This is hardly truer of the scientific and engineering than of the humanistic branches, the students of which are so often preparing

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to teach them. Training for a livelihood unfortunately may be effectively obtained without obtaining that equipment and intellectual alertness which will make a man a judicious member or a safe leader for society. If students' interest is quickened and their own standards raised their routine work will be the better. But intellectual interests are most clearly shown in voluntary reading or in amateur scientific observation, suggested by courses but beyond their mere requirements, or quite spontaneous and unconnected with them. So far as the two things are separable, then, we are concerned with intellectual activity for its own sake. And, further, we are concerned with undergraduates, not with graduate professional students.

The phrasing of the committee's problem was changed from Decline in Intellectual Interests to Methods of Increasing the Intellectual Interest, for the obvious reason that it is more profitable to plan for the future than to praise the past. There is another reason, the superiority of the past may be less than some think. Many college teachers, without being confirmed praisers of bygone times, perhaps have a general feeling that their college contemporaries were better informed and mentally more active than are their own students. But memories of youth are notoriously treacherous, especially comparative memories. The courthouse in our native town looked small on our last visit. And did you ever re-read your own freshman themes? But the decline (if there is one) and its causes have a bearing on the other subject. The writer had not at his orders a superior specimen of the undying people whom Gulliver found in Luggnagg, but he conceived a great curiosity. Accordingly he read the early biography of some thirty-five prominent Americans, from George Ticknor to Theodore Roosevelt, whose college life fell in the first seventy-five or eighty years of the nineteenth century, and in eleven colleges. For the forty years since then

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little biography is available, and we must trust our memories.

Now what do my thirty-five witnesses testify as to the general educational atmosphere in the early colleges? What of the professors? The attitude of the professors toward the students was frequently cold and aloof, especially in the larger and more distinguished colleges. C. G. Leland seems to have found it so at Princeton (1841–45), John Bigelow at Trinity (about 1832–33), William H. Seward and W. J. Stillman at Union, F. A. P. Barnard (later president of Columbia) and Andrew D. White at Yale. Harvard, with its stiff sectarianism, seems to have been worst of all. In George Bancroft's time, in the second decade of the century, a period of vigorous expansion in the college, the students regarded the faculty as their natural enemies, and any kindly intercourse was generally secret; only by night did a student venture to a professor's room, a policy of Nicodemus reported by A. P. Peabody, later president of Harvard. Hoar, in the '40's, reports the treatment of students by professors as stern and austere, and the biographers of Hale and others give a like impression. To this attitude of stately aloofness on the part of the more distinguished professors there are honorable exceptions. Bancroft owed much to the personal interest in him of three professors, Charles Sumner to the interest of Ticknor, Senator Hoar to personal inspiration from able personalities; John Fiske became close friends with certain professors, and Roosevelt pays a tribute to the help of A. S. Hill. Above all, N. S. Shaler owed a debt to the intimacy and personal methods and contagious scientific enthusiasm of Alexander Agassiz, as well as to other persons; this was not at rigid Harvard, but in the newly founded Lawrence Scientific School, where the informal methods and inspiring personalities recall the early days at Stanford. To be just to the earlier professors, they conceived it their duty,

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not to awake and guide mental activity of all kinds, but to uplift their students religiously and morally, and to put them through a course of study almost mysterious, almost sacramental, in its efficacy. And all this they generally did well. To a greater extent than their successors, they introduced a hortatory and emotional element, by the prominence given moral and religious teaching. The early professors were good Christian men. I suspect their aloof attitude was due, not to any especial absorption in other interests, but to the older conception of the teacher as a disciplinarian and as an example of dignity, morality, and piety, the "donnishness" which afflicted Oxford at the same time. One of the blessed effects of the system of free (or largely free) election of courses has been to put the student more nearly on a footing of human equality with the professor. Not only does it explicitly recognize his independence and right of private judgment, but the professor must commend himself by being conciliatory, or his courses will be avoided and his work a failure. However that may be, the earlier professors expected an attitude of discipline and subordination. Students were addressed by their last names only, "Prescott," "Bancroft" (a sign not of friendliness but of authority), and dismissed with a curt "You may go, sir." They were not trusted; in Harvard at one time "grouping," i.e., the gathering in knots of more than a few students in the college Yard, was an offense to be punished. Accordingly, the students, rather younger in years than now, were much younger in conduct. Practical jokes, especially on the faculty, were common, of which the most elaborate I have found was inflicted on the new president of a small college. Knowing that he was about to preach in a neighboring town, the students prepared a graceful reception for him there by quietly sending word that a harmless lunatic was at large and headed thither, who had the delusion that he was president of

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the college. Rowdyism was common at Harvard in Edward Everett Hale's day, and Professor Ticknor gave John Fiske in the '60's the advice (extraordinary at best) "not to get acquainted with the students—'a fast set of fellows.'" Harvard in the middle of the century and earlier paid the penalty of its size and wealth by facing earlier than most colleges the problem of the rich loafer. Though Francis Parkman in the '40's reports that "the average scholarship at Harvard was exceedingly creditable," Fiske in the '60's found scholarship "held in disrepute"; "a good recitation is called a 'squirt,' and some fellows have undertaken to call me 'Squirty.'" A fellow student opined "that twenty pipes of tobacco a day would not injure a man as much as six hours of study. I asked that ignoramus if he considered six hours of study much. He replied that he couldn't say, as he never studied over three." Senator Hoar even expressed the subversive view that it is not well to study very hard at the age from sixteen to twenty, and that in his class distinguished scholarship did not bring marked success in after life. It is striking to see how many men destined to intellectual eminence took small interest in their studies (Ticknor, Prescott, Fiske, A. D. White).

Next, as to their profit from their studies. The college course was, I need not say, the old prescribed course of Latin, Greek, and mathematics, allowing some election in the later years, with some "mental and moral philosophy," sometimes a little of history, the modern languages, and a little introduction to natural science (mainly studied in textbooks). The faculty was usually composed of men of character and parts, with now and then a distinguished scholar. President J. B. Angell, in Brown, 1845–49, was fired with enthusiasm by reading Livy with a professor who was editing that author, and attributes his own intense interest in European history and politics to the influence of a rather easy-going

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professor of history. "The intellectual demands upon the students were exacting. For those who attained high rank the life was a strenuous one." In the smaller, poorer, or newer colleges, usually, though not always, the students were earnest and industrious, as we learn from Henry Ward Beecher, of Amherst, in the '30's, and from Thomas B. Reed, of Bowdoin, in the '50's. Men who frequently taught school during the long winter vacations that they might return to college, were not likely to waste time there. But such tributes as Angell's are rare. What praise of the regular classwork there is generally sounds perfunctory. Ticknor (at Dartmouth, 1805–07) found the teaching poor, and learned little. Prescott (at Harvard from 1811), received no stimulus to study. E. E. Hale (at Harvard, 1835–39) found that little was done by the professors except to set tasks and to hear them, and was not impressed by Longfellow's lectures on German poetry. Hoar (at Harvard from 1842) found the instruction of little value, and grammatical study of classical authors not conducive to understanding and love of the classics. Charles Eliot Norton (at Harvard from 1842) felt that the system at college wasted opportunities; Phillips Brooks (1851–55), though he acquired a genuine love of classic and other literature, lost his high rank as schoolboy and freshman, and became a mediocre student. Roosevelt (1876–80) did not find the kind of teaching he would have profited from, especially in economics and science. C. G. Leland called Princeton (1841–45) his "Mala Mater," and found it all piety and mathematics, to neither of which he took kindly. Discovering with delight certain old books in the college library (one of them a black-letter Lyly's *Euphues*), he was told by a professor he might have them to keep! John Bigelow would be puzzled to tell of anything he learned for which he was beholden to his college (Trinity); none of the professors seemed to care whether he learned anything or not. Seward (at

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Union from 1816) and A. D. White (at Yale from 1850) found the teaching mechanical.

The livelier intellectual interests of college students in the first three-quarters of the nineteenth century were due to each other, and to themselves. There was much conspicuous, outspoken interest in books and intellectual matters. Oratory played a larger part in the college course than now, and though it was more or less required work, it was individual and personal work apart from courses, and there is abundant evidence that the preparation of orations was stimulating, whatever one may think of the educational value of discourses on "The Superstitions of the Indian," or "On Hope." Debating, too, was found stimulating, even if criticized (by Roosevelt and others) as leading to mental agility rather than honesty and firm convictions. Clubs were frequently founded by students for debating and for literary purposes, entrance to which was on the basis of ability, not popularity merely, as often now in such of the same clubs as have survived at Harvard, Yale, and elsewhere. The refreshing thing is that these clubs were formed spontaneously, by the students themselves, and conducted by them alone, with no desire for professorial backing, which the serious clubs nowadays seem to wish, partly because professors are more approachable. Students by being left to themselves developed intellectual confidence. Stimulus of students by each other seems to have been especially marked at Yale.

Most important of all, a considerable proportion of students brought intellectual tastes with them. Coming of the professional classes, or from wealthy families where cultivation was traditional, or from poor families where it was an ambition, they had no need of being awakened. There were few or no courses in literature other than the classical, but many of the students read then for pleasure what they demand "credits" for reading today. When credits were given for nothing

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later than Tacitus, they read Chaucer and the Elizabethans for pleasure; their sons got "credit" for reading these, and read Tennyson and Thackeray for pleasure; their grandsons, when these authors brought merit for academic salvation, stepped aside for H. G. Wells and G. B. Shaw; now that these have acquired merit, and now that we give credit for reading pretty much anything that is bound, and not a few things that aren't, little remains for the straying foot except the daily paper. But our grandfathers found good books alluring enough without academic bribery. Thomas Williams perused those recent writers Scott and Byron at Dickinson College in the '20's; George Andrew at Bowdoin (1834–37), far from a serious youth, delighted in reading though not in his studies; Angell's friends were divided into Carlylists and anti-Carlylists, and as hotly discussed literary, historic, and philosophic theories as the political questions of the day; much the same with Prescott, Bancroft, Sumner, Hale, Brooks, Fiske, Leland, John Bigelow, Barnard, J. D. Whitney, and A. D. White. Norton testifies that "the ways to learning and cultivation were open to the eager-minded." The future President Barnard's life at Yale, 1824–28, according to him, was "a period of almost literal self-education." It is at least a question whether the development of intellectual tastes which are followed unaided is not a more valuable part of one's education and does not promise more for one's future than the pursuit of college courses. Most men found their life highly stimulating in a general way, and intellectually through access to good libraries and stimulus from friends. But men later intellectually eminent seem no more grateful to their colleges than those to become eminent in practical directions; perhaps less so.

A critical reader will not overlook the mental discipline and cultivation which result from four years of even a narrow curriculum, even though pursued with

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no great interest or industry. There is frequent testimony for this from such students many years later. But my total impression, after enquiring of my several dozen witnesses, is that the curriculum and professors did surprisingly little to increase intellectual interests in those who brought them, or to develop them in those who did not; that students were led to the water conscientiously enough, but whether they drank of the water of life freely, or merely sipped and disgorged mud and sand, was their affair. Our modern college teaching, with its tendency to close specialization on the part of the professor, may have lost some of the richness brought the older colleges by the men of the widest culture among their faculties; but we have such men still, and I am not sure that the average professor of fifty or a hundred years ago improves on acquaintance. There can simply be no comparison between the general mental stimulus offered by the college courses, and personally by the professors, then and now. And I believe that, for whatever reason, students are much more interested in their studies now than then.

But of spontaneous intellectual interest and activity, then, I believe, on an average there was more. The students were boys, it is true. We need not view a distressing sight of our grandfathers staying in on a fine afternoon to read Carlyle's latest, or Darwin's first; I should say they were more likely to have been depositing a bomb in the chapel stove (a frequent pastime), or leading a cow upstairs into the room of an eccentric professor. I recognize, too, that my witnesses, and probably their chief friends, were men of exceptional ability, and that among contemporary students we probably think of the average; also that not a little quiet reading and thinking are going on through all the modern college hubbub. The modern student, like his grandfather, is often intelligently and keenly interested in the urgent political and economic questions of the day.

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But I believe there was more desire then to keep up with the latest books of the more serious kind, more disposition to discuss them, more shame of ignorance, less fear of taking one's self seriously, less fear of being thought a prig. As to the college students of our own day, their infinite varieties cluster about three types as nuclei, those who desire training for a profession (including teaching), those who desire a general education, and those who care less for education of any kind than for something else. The professionals prevail rather more in the West, the general-culture people and the loafers in the East. The professionals and the loafers have increased, the others have decreased. With the far greater richness and generosity of opportunity offered by the college of today the lassitude of the response is striking.

As to the causes of the decline, or the deficiency, of intellectual interests, they will be found chiefly in the new ideals of our own day, and in the competition of other interests. Our students both love Caesar more and Rome less, and none will deny that they gladly render unto Caesar the things that are his. With all of us the intellectual life has to meet far hotter competition than seventy-five years ago, and most of all with college students. It was not till the final quarter of the last century that athletics became prominent in college life. Beneficial as they are to those who engage in them, especially where we are able to make the number large, and wholesome as are the standards which they help to maintain for everyone, they are an element in the situation. Amusements are more alluring than ever before, and metropolitan pleasures are to be found in the remote country. The drama, which once could be found all the time only in large cities, now in the form of moving pictures is in every village. Our modern speed and comfort in moving about promote restlessness and unsteadiness. The automobile, an amusement itself,

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facilitates all others. It makes a dance possible at a moment's notice, with the help of the ever ready Victrola, and everyone knows that the dancing craze of the last ten years is paralleled only in schools for dervishes. Popular college girls are fatigued and *blasées* long before they are seniors. Semi-social affairs like the getting up of plays, operas, pageants, county fairs, Belgian markets, or some of them, contribute something to education or cultivation, and are useful experiences in other ways; but no one will deny that their chief attraction to the participants is social, or that they lessen the time and inclination for compulsory or spontaneous mental application. Students who throw themselves wholeheartedly into college life come to regard their studies as a disagreeable avocation from their main concerns. A certain momentum is necessary to mental achievement, and constant interruption by more vivid occupations promotes superficiality in work. Intellectual matters filled a much larger place in the thoughts of students seventy-five years ago.

Coeducation enters largely into the matter. It is a necessity at present, and on the whole beneficial. It has meant a more normal social life for both sexes, and with its introduction disappeared almost the last vestiges of that monasticism in which universities arose. As compared with education apart, morally it is an advantage to the men, but a disadvantage to the women (simply because it makes for frivolity); intellectually it is an advantage to the women of the country as a whole, because it allows them a better education than most of them could get otherwise, but a disadvantage to the men, because it brings one more distraction. A little more local segregation in a coeducational university, such as Stanford is working toward, would be an unmixed blessing. For most of the social distractions, and some of the others, are heightened by coeducation.

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The fact is that the broad democracy of our system is not wholly favorable to its standards. We are proud of this democracy in education, and know it to be a necessary safeguard to a republic. But if the chief function of the college is to train our leaders, they need the qualities and interests which will make them safe leaders, and to develop them in a favorable climate. Formerly enough men brought general intellectual interests to create an atmosphere which modified or silenced those who did not. But we cannot expect everyone to share, or even respect, these interests, and we are letting in everyone; we have, if not lowered, at least broadened our requirements for fear of excluding someone with a vocation to the intellectual life, and he is swept in on a great tide of those who haven't it. There is no excuse for staying out of college today. Poverty is no excuse (we are glad to think), a superficial and hit-or-miss and scattered education is no excuse, dullness, indifference, sloth, and frivolity are no excuse. From families and communities which have had no means of understanding the finer possibilities of the higher learning come every year thousands of students eager for the vaguely-fancied, or the purely practical, or the baser rewards of college life. Doubtless some of those who come to scoff remain to pray, but the real trouble is that most students remain with the desire not for intellectual stimulus, but for a good time or vocational training.

This prominence of vocational aims is one of the chief differences between our modern and the earlier college education, and is really one of the distractions from the free intellectual interests of undergraduates, who have not yet earned the right of graduate professional students to narrow their interests. Once the college did not have to insure liberality of education by "distribution requirements"; the students' own desires saw to it. The curriculum, further, which bore directly on no profession (except perhaps teaching), was of a kind to foster

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general intellectual interests. As President Meiklejohn, of Amherst, said in an address at Alleghany College in 1915, while many of the students were headed for the ministry, in college they were securing the breadth of view and sympathy which their profession required. Most professions, rightly understood, require these, and formerly were generally so understood. But some fifteen or twenty years ago the universities chose to begin competition with business colleges and all kinds of technical training schools, and today they train for a fast increasing number of vocations which no one can call liberal. A few years ago someone was chaffing an administrative officer of one state university on dropping behind another, which offered courses in undertaking; "We shall have one next year," he cried indignantly. The catalogue of a third state university lists courses in the Department of Ice Cream directly before courses in that of Indo-Iranian. I shall not pronounce on the relative value of freezers and Sanskrit, but alphabetic order makes strange bedfellows. Oxford and Cambridge, which Americans still look to as best exemplifying liberal education, have not gone in these directions. Twenty years ago, at any rate, about half the graduates of Oxford went into teaching, about a quarter into the church, and the rest into journalism, law, politics, and other such pursuits. Few Oxford men went even into business. "It is hard to see how, in the present struggle for commercial supremacy," says Mr. J. Wells in his book, *Oxford and Oxford Life,* "a man can spare from his business three of the best years of his life." The explanation is, of course, that in England a university education both is "unpractical" in its aim, and is understood to involve and mean very much more to a man's standing than with us, and is not to be entered upon hastily and unadvisedly, or unless a man means to change his social class. With undergraduates, studies or other mental interests which do not visibly bear on

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their life-work tend not to be taken seriously, in contrast with an often intense concern with those which visibly do. Engineering undergraduates seem to show more diligence and interest than those in arts. As Dr. Meiklejohn says, in effect, in the address earlier quoted, a father often wishes his son to have the fullest training for his profession or business, but is willing that he shall take matters which affect him merely as a human being and a citizen, such as his religious and economic views, from his father or from the air. But we do not need the president of Amherst to tell us, as he does as one of his chief points, "that in the activities common to all men the guidance by ideas is quite as essential as in" the special activities of different groups of men.

The competition of other interests against the free intellectual is seconded by the pervasive spirit of the age. Wisdom used to be found in the past, in the Bible and other religious tradition, and in the great classical tradition. The tools which the studious acquired were the ancient languages which enabled each for himself to dig down anew to the foundations on which our civilization is built and base himself on that. Now we come to college to get not wisdom but knowledge, and the knowledge that we crave is in the outer world of the present and future. The center of gravity has changed from religion and the purely intellectual to practical work, affairs, and business. The ideal of the day is not to do good, as two thousand years ago, or to be good, as a thousand, or to feel good, as a hundred; our ideal is to make good. The boy admires those who have risen to conspicuous power and made vast fortunes by their own efforts. Many of those leaders to whom the rising generation looks up have had no college education at all, and few have been educated at colleges which have left a deep intellectual impress. Students with practical aims and without interest in ideas have the momentum of the age back of them, and certain

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attractive personal traits perhaps especially common in them make others ashamed to be "high-brow." For we Americans are the most conventional people on earth, next to such savages as still remain unspoiled. Our standards grow toward the standards of the street; ordinary vaudeville sets the pace for college shows and pony choruses, and the college girl aspires to be a broiler. I am not bewailing all this, for it may be a sign of vigor and normality. Since we have undertaken to educate everybody, we must meet the world halfway. But it *is* a question if it is the duty of the university to lead in all the tendencies of the age. Humanity advances like a boat beating to windward, now too far one way, now another, but the intellectual leaders (and where should they resort if not to universities?) should luff at every chance. We must keep the sympathy of the world, but must frequently offer an elastic resistance in view of the teachings of history and a sound human norm, and if necessary be dragged after only with dug-in heels.

It will be seen that I am not a pessimist about our college students. It would be futile to be. They are our material, as marble is the sculptor's. To borrow a not inappropriate commercial maxim, "The student is always right." One reads many unreasonable criticisms of the situation, which contradict each other. A writer in the March *Atlantic Monthly* laments the student's lack of miscellaneous information, his ignorance of the location of the thyroid gland, the nature of the chameleon and the fact that Mr. A. Brisbane is a journalist. What can we do about that? A professor of Latin opines in the *Bulletin* of the Association of American University Professors that the best cure for degenerate education is for everybody to study Latin. What are we going to do about that? Universities in general cannot exclude all but the patently best. They must stimulate the intellectual possibilities of those who seem average, for from them may emerge superiority.

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And some professor-critics are just as vainly pessimistic about the professors, scold each other as narrow specialists, or write with that air of gentle amusement at each other which is coming to be the orthodox way nowadays for professors in public to foul their own nest; as who should say, I belong to an absurd profession, but I am man of the world enough to know it; or, what is as bad or worse, I belong to an absurd profession, and I'm another. When we consider that the duty of a university is to teach a grasp of some one subject and an acquaintance with many, accuracy in detail and comprehension of large ideas, appreciation of the fine and sympathy with cold reality, passive information and ability to solve a problem, a wide view of the past and alert intelligence as to the world about us (including the chameleon and Mr. A. Brisbane), that the duty of every college teacher is to do pretty much all of this, I for one do not feel like being unreasonable and belittling in my criticism. I have said that the professor of a century ago does not improve particularly on acquaintance; I see no reason to think he shames his successor. I do not believe he was so good at stimulating a generally alert habit of mind, as well as teaching his subject; or at giving a sense of More Beyond, and making others realize the ignorance of the best of us before infinite truth; or even at encouraging enquiring students to remain after a lecture to discuss it. I do not believe he was better as a teacher, in throwing out suggestive *obiter dicta,* in fertility in side-ideas, in avoiding the substitution for them of one or two hobbies (not to say complexes), in connecting his subject with the students' other studies and interests, in touching on semi-popular books to be read voluntarily on this or that side-point or even on other subjects, in alternating the dogmatic attitude with the open-minded and questioning, in satisfying so far as he can (and then some, perhaps) the young student's instinctive desire for generalizations, formulas, master

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keys, yet making him see the beauty of getting to the bottom of something, in startling by paradox yet reconciling apparent contradictions. I do not know whether he realized as well as we that on the whole it is better for a college class, as well as for the good of the society we serve, to draw out the brilliant and able than to labor long and publicly with the dull and negligent. I do not know how far the older professor would agree with us, or how far we should agree with each other, as to the relative value of a survey of the whole of a subject and thorough study of a specimen part; or as to whether there is not danger of forestalling difficulties so much as to make the student helpless. I am not sure that earlier the colleges were much, if at all, better off than we in the presence in each of one or two men of such attractive and inspiring personalities that most students feel they cannot afford to miss them, whatever subjects they teach; men who lectured on art, like C. E. Norton, or on geology, like N. S. Shaler. Every university needs a few such courses; let them be "snap," "snide," or "pipe" courses, if you please, with no tincture of dry erudition. But as to the philippics against specialists and doctors of philosophy, of which we read so many from the pens of masters of arts, I feel sure the gain is far greater than the loss in composing our faculties largely of persons trained in scientific method and interested in research. Professors may exist whose thoughts rarely stray beyond the iota-subscript or the hooked-e, the law of gavelkind or the germinal spot in the egg of Triton, but I have never met them. It requires no rare tact to avoid boring immature students with such things, and that man is inferior (or very young) in any case who is spoiled as a teacher by interest in specific intellectual problems, and whose independent investigation of them is not fruitful of fresh and broad views. Whatever may be the matter with professors, it is not that they know too much. In this kind of thing we must

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beware of *post hoc ergo propter hoc.* Good students are inspired by feeling their teacher to be a recognized authority. And in this connection I will add that I believe undergraduate instruction is only improved by the existence beside it of a strong graduate school. Mature and zealous young scholars such as come to a strong graduate school have some effect on their juniors, and are a reservoir of competent assistants to the professors; it is also more efficient for a university to pick as young instructors the best of its own products than to take those who can be spared by other institutions.

The academic mind has been so much concerned of late with the problem of stimulating the undergraduate that there has been no lack of expedients suggested and tried. Many of us say, let us get away from the idea of "lessons." The drill-and-mill conception of education, especially among dutiful young girls, is distressing. Some years ago a German youth was imported by a Middle Western university to teach his native language. One evening he was informed by his landlady that a young lady had come to see him. Much impressed, he put on his evening clothes, and betook his blond pompadour downstairs, expecting I know not what of romance. A young woman in a tam o'shanter greeted him with, "Say, professor, I came to see if the lesson goes to page 34 or 35." But is there a way to lead young students beyond this point of view, and make them work at all? As to more positive devices or proposals, wherever two or three are gathered together there is no lack of them. The adoption has been suggested of the English plan of dividing students into honor-men and pass-men, the former including most of the able and ambitious students and receiving especial attention. An informal plan not unlike this perhaps most college teachers follow. If formally adopted I fear it would let down the bars for the idler, and increase some of our academic ailments. The peculiar and conspicuous position in England of

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Oxford and Cambridge, and the rigorous and inspiring traditions of those universities, lead the majority of their students to enroll as honor-men, and bring a very effective social discipline to bear on the pass-men. How the system would work in our far more numerous, democratic, and centrifugal universities is hard to foresee. Would the freshman's heroes be among the honor-men or the pass-men? At certain American universities already, however, something is accomplished by superimposing a system of degrees with distinction, with special additional requirements, beyond the ordinary degrees. These are for the minority, and do not result in lowering the lower group. There is some stimulus in public recognition of scholarship and mental attainment in or out of courses by prizes, honorary scholarships, publication of grades, Phi Beta Kappa. I am aware that some people deprecate all this as appealing to sordid motives, but they are no more sordid than the motives that actuate men in after-life. The real trouble is that till the student-community itself honors ability and rank, such recognitions are empty; the average student really values honors only from his peers. Some have suggested (and I believe even tried) a scheme of fewer required units, even lower fees, for good students, on the merits of which devices I shall not express myself. To stimulate broad and spontaneous mental interests some colleges have tried a "Free Reading" course, which grants a unit or two of credit for miscellaneous private reading of solid character, on any subject not connected with courses. It is a concession, dubious at first sight; but when only able and worthy students are picked, who are not merely after easy credits, the results are good, especially with homogeneous groups, at least of the same sex, meeting for discussion one hour weekly at the instructor's house. It is a makeshift step toward informal intercourse on intellectual matters between student and professor, which is altogether the most

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fruitful means of stimulus, and of which more hereafter. To promote this President Hughes, of Miami University, is trying a novel plan, on which the present writer published a little article in *School and Society* for March 26, 1921; literary men and artists of intellectual and magnetic personality are being drawn to the university community, who are to give no formal instruction, but to associate with students as they will. Dr. Hughes' expressed motive is to counteract what he calls the materialism of the college student. It is too early to discuss results, which in no event could be far-reaching. I shall raise the question whether a marked improving of the standard of scholarship and quantity of work demanded would not greatly promote intellectual interests by excluding those who lower the standard, and giving in a man's life primacy and momentum to his mental interests. Everyone knows that at present, without exceptional capacity, a man can earn most or all of his expenses, take some part in college pleasures, and carry full college work in a supposedly satisfactory way. Agreeable as this fact is in some points, should it not raise a doubt as to our standards? How about keeping those busy who are free from the extra drain on time and strength? Do we really exact the theoretical two hours of preparation for one hour of class-work? Yet even some first-year graduate students smile at the idea of doing any voluntary reading, and it is customary, especially with the women, to groan audibly when a fresh lot of work is given out. I fear there are many like John Fiske's friend, who think three hours' work a day ample. A university ought to be a place for leading the strenuous life. Yet even among graduate students it is not unusual to find pronounced nervous invalids, who expect to be treated as such and have come to college as to a genteel and unscandalous sanitarium. One may try to be kind to them, but their continued presence is not only a bad influence but a bad sign. No doubt we

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should do much to rescue the definitely intellectual branches if, while leaving the doors wide open to the purely practical and vocational schools, we should limit the numbers in the colleges and admit only on examination. Democracy in education has gone so far that, even on the ground of the financial needs of our universities, Mr. C. P. Lipman, in the *University of California Chronicle* for January, suggests that we must examine and admit only the best.

Few of the matters just discussed involve apparatus or organization. Such organization as lower divisions, elective systems, group systems, are meant primarily to ensure breadth and congeniality of work, and are only indirectly related to stimulating intellectual interests. Devising and changing and trusting apparatus is a national taste, sometimes vice, and with our present organizations we can perhaps do as well if we really feel that our duty is not only to prepare for a profession and teach facts, but also to stimulate intellectually. Systems and requirements have gone very far in some places; what with our requirements for the A.B. and A.M. degrees, taken straight or in this or that division of a department, what with our requirements for the teacher's certificate, with a teaching major or teaching minor in this or that, we spend sometimes two whole days in a term talking about "requirements," without, as the writer said once to an able student at the end of the two days, one word about education. Some such system is of course needed to reduce idling and "snap-hunting," and insure some qualifications for professions. But there is no doubt that elaborate systems make students think the professors are chiefly interested in apparatus and in a mechanical use of it. "Requirements," daily "lessons" in each, examinations in which memorized facts are poured out pell-mell, perhaps never to return—is this an unfair picture of the average undergraduate's conception of the average undergraduate's whole duty?

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I have never been convinced that the old-fashioned elective system did not do about as well as its successors for most students. The great average of people go along about the same at all times; it is borderline cases, and fringes, that are affected by changes. And at least the elective system reduced executive work for the faculty, and did not tend to hypnotize the student with the conception of education as a mechanical puzzle of requirements.

But, as I draw toward a close, two systems are in use in two American universities, not mechanical if rightly executed, in fact directed against the superficiality to which mechanism tends. These two universities have met our problem in a more thoroughgoing way than any others have done. Their systems are not new, but on the whole borrowed from the mother universities of Oxford and Cambridge. Our college education has been accused of being Germanized. I have already defended the spirit of research which we learned from Germany, but perhaps we have erred in clapping it too suddenly in our advanced work on top of a system which sometimes is little more than a glorified secondary school. A man with an Oxford background is better fitted than our students to undertake research if he will, and even without discussing the achievements of Oxford and Cambridge, it is natural to turn our eyes to them. If their system has not done all it might to make England teem with free intellectual activity, as, it is rumored, it does not, this is due to other causes. The two elements in their system which have been exciting interest in America are their general examinations and their tutors. At the beginning of the nineteenth century Oxford adopted its present system of examinations, which may be roughly described as extensive and general examinations on the student's whole series of studies, given in the middle and at the end of his college course. The system tends to lead him away from the idea of "lessons," and to make

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him feel that the vital thing is to secure command of a subject. The tutorial system is of longer standing but was given new vigor by Benjamin Jowett and others toward the middle of the century. The tutor meets his students intimately in small groups, directs their reading, and prepares them for their examinations. Since he does not give these himself, he and they are in the position of working together for a common end, which promotes the student's confidence and the tutor's influence.

In 1904 President Woodrow Wilson tried in Princeton, and in 1905 officially adopted, his well-known preceptorial system, obviously modeled after the English system of tutors, and, having raised among friends of the university a large sum of money, added some forty-seven members to the faculty to execute it. The main purpose was to overcome the evils attendant upon large classes, and to substitute for the system of "lessons" and examinations one of personal conferences on *subjects*. As President Wilson said, the chief object is not efficient teaching but rather a system of study, which gives to courses which are chiefly reading the advantages that already belong to laboratory courses, with their personal contact between teacher and student. It is therefore not employed in the natural sciences; nor in mathematics or in courses which involve mastering a mass of elementary fact, like early courses in languages (or economics). "It is outside the fields of drill, formal training, and occasional explanation that the preceptorial system has its proper application," wrote Mr. Wilson in 1909. It is especially employed in courses in discursive subjects like history, philosophy, and literature, which involve grasp and appreciation of ideas rather than merely facts, and which involve much reading. The lectures outline the subject and interpret it through the personality of a man who is an authority on it, but the most important part of the course is recognized as

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the weekly conference of an hour with the preceptor. For this the students are divided into sections of about five each, as homogeneous as possible in industry and ability, from the clever and zealous, down through mediocrity, to the dull, the immature, and the negligent. The preceptor meets them in his private room or at his house, and keeps visibly no record of attendance or proficiency; it is not he who is to examine them; he does not lecture or quiz them; in short, all the conditions are favorable for informality and confidence. What he aims to do is to find and remove their difficulties, to induce them to think the subject through, and by all means to stimulate their interest and to arouse discussion. If the meeting turns into a debate about some part of the subject among the students themselves, so much the better. The only disciplinary hold over them possessed by the preceptor is that if entirely dissatisfied he will not recommend a student for admission to the examination. The purpose is to make a student's own reading, and reaction to what he reads, the main element in the course; and to cultivate, I suppose, those two greatest of mental virtues, discontent and curiosity. As to the success of the system, after it had been a year or two in operation, Dean West testified that the use of library books had heavily increased, and that talk about intellectual things was now good form at eating clubs; and another writer bore like testimony a year later. Princeton still holds ardently to the system, for the same sort of courses, and would extend it if money were available. It has also been adopted by other colleges.

The chief difficulty is the expense. Very young men, who might be secured for an instructor's salary, frequently lack the necessary patience and self-detachment; to ensure the ability, knowledge, and personal qualities which make the preceptor inspiring, at least an assistant professor's salary must be paid. But a considerable staff is necessary. Experience shows that halfway

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systems usually amount to little, such as adding to a professor's other duties that of perfunctorily "advising" a certain number of students; if they are not obliged to meet him frequently and intimately, the relation is seldom fruitful.* His special function must have a primacy among the preceptor's duties, and must not depend upon the student's volition. To inaugurate the system at Princeton, with thirteen hundred undergraduates, President Wilson felt two and a half million dollars necessary. Clearly also, men of the requisite qualities are hard to secure, and to retain. But nothing could do more, not only to raise scholarship in courses, but also to stimulate spontaneous intellectual interests. What does an undergraduate do in our system when he meets baffling details, or large and intricate ideas? If he is able and resolute, he thinks them through himself; if he is confident, he braves the disapproval of his fellows by demanding full public explanations, or goes to the professor privately, perhaps with that distressing apology for entrenching on his time. But many students are neither, and content themselves with a muddled makeshift, which they veil with words in their examinations. A sympathetic expert can help a man to lay that honest foundation on which permanent interest must rest, and which must be a guide for the later interest. We may lay it down as a fundamental that intellectual interests can be developed only by infection. One teacher in a hundred can infect many at once, in large classes; but a college must rely chiefly on the work of many teachers with small groups.

Another plan, already tried at Harvard for five years, should have the advantage of being less costly. Princeton borrowed the Oxford tutorial system, but not the general examination; Harvard has taken some of each, but chiefly the latter. Several years after it had so modified its free-elective system as to require about a third

* For fact and opinion on this and on the Princeton scheme, see the results of a questionnaire in a paper by Arthur R. Mead, *Proceedings* of the Nat. Educ. Assoc., 1912, pp. 790-803.

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of a student's work in some one field, the departments of history, government, and economics introduced a general final examination for those who centered their work in those subjects. This plan has only now, with characteristic conservatism and caution, been extended to all, or nearly all, undergraduate subjects except mathematics and the natural sciences (omitted from the system as at Princeton), and goes into effect this year. For those who specialize in history, political science, and economics, there is one examination to test comprehensive attainment in the field covered by all three departments, and also in the field of that department in which the student is concentrating. There is a second examination on some restricted field in history or political science or economics to which the student has especially devoted himself; and also an oral examination, usually on this field. The intimate relations among various fields of study are emphasized by the association of the three departments in the first examination, and also by recognizing the historical importance of such literary figures as Dante, More, Bacon, and Milton. For each student who devotes himself especially to the ancient and modern languages and literatures there are two examinations; one a general examination on the literature in which he has especially centered his studies; the other on his acquaintance with certain works and authors. These are twelve books of the Bible and twelve plays of Shakespeare (familiar pair!); also the works of two great modern writers for students of ancient literature, and two great ancient writers for students of a modern literature. The student is allowed to select the authors and works to read from a generous but well composed list, and to read them in English versions if he wishes. For those who purpose to take their degree with distinction further work is required, a slight approach to the Oxford "Honour Schools." Those who concentrate on a combination of literature and history specialize and are examined in some particular period or country, and they

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too do the same reading in the Bible and Shakespeare. The reading requirements are obviously based on the view that literature is essentially one, whether ancient or modern, and also that every educated man should know those two books which more than any others have influenced our race. The pamphlet which serves as a guide to the system states that "The primary object is not to exact performance of a task, but to assist in the formation of a habit—the habit of reading good literature." All the examinations, to judge from specimen questions already issued, are fairly searching, but offer a liberal choice among the questions. Their obvious purpose is to ascertain, not if the student knows this or that in particular or has done routine work well, but if he knows a considerable amount and understands a considerable variety of matters connected with his chosen field.

Regular courses alone, then, do not suffice to prepare for any of these examinations. Indeed, students are not particularly encouraged to take courses in the authors outside their chosen field. The examinations require them not only to choose their courses systematically, but also to coördinate what they have learned and to do work outside, work as nearly spontaneous as it can be without being liable to neglect. To help them to do this a modified tutorial or preceptorial system has been introduced. The language departments are to employ advisory committees of their faculties, who will doubtless be always ready to confer with students and presumably at times will summon them. The departments of philosophy, fine arts, history, government, and economics will use tutors; indeed, the last three departments have used them for some years, sixteen being on the roll of these departments for next year. The tutors, though allowed to give some courses, are chiefly selected for the special function, as in Princeton. Otherwise than in the Princeton scheme, they will meet weekly each

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student alone, to teach him how to learn and how to assimilate his knowledge, and will give most attention to the able and eager. They also seem to be younger and less highly paid men than at Princeton.

Such plans are not confined to these two universities. To say nothing of others, President Meikeljohn, of Amherst, in his *President's Report* for 1918, suggested that each student during his two Senior College (or Upper Division) years should concentrate in a group of related subjects (not in one department necessarily), and before graduation should undergo a general examination by a special examining board, not composed merely of the professors in his courses. He makes the striking point that the students' success or failure will afford the professors some test of the efficiency of their own work. This is afforded also by the English, the Princeton, and the Harvard schemes.

In conclusion, and once more, I do not understand the basis for the violent pessimism of many persons who are writing about our present college education. What do they expect, by what standard are they judging? If by the past, their basis is either unreasonable or illusory. If by the ideal, we are at cross-purposes, for the ideals of all of us are not the same, and ought not to be. Anyway, there is a world of difference between a fruitful dissatisfaction and mere peevishness and vaporing. There is no use in making ourselves barrenly miserable about everything from the Treaty of Versailles and the League of Nations down to freshman themes. If we compare the former with the Treaty of Vienna and the Holy Alliance, we shall find in a century's changes ground for hope for that race which has been on earth some millions of years and has been civilized for twenty-five hundred. There may be a like cheering comparison for our problem. The New Jerusalem cannot be built like a Pedder-plan house. As to what specific thing can be done, perhaps our best course is to watch closely the working of the new plans at Harvard.

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THE PRINCIPLE OF RAPID PEERING, IN BIRDS

JOSEPH GRINNELL

Observation shows that the commoner birds may be divided into two categories with regard to their method of obtaining food. The two categories comprise, first, those kinds of birds which perch and wait passively for the appearance, within reach, of moving objects of food value; and, second, those birds which themselves are almost continually in motion and thereby seek out items of food which are stationary. It is not to be inferred that all birds will fall definitely into one or the other of the classes here described. Indeed, some species will come to mind which occupy a borderland position; and furthermore, there are other types of behavior altogether, as illustrated by the vultures and by the owls.

As an instance of the first category, let us recall the behavior of a Hermit Thrush (*Hylocichla guttata*). The bird moves along the shaded ground for a distance, then strikes a statuesque pose during which it surveys with intent eye the ground round about. If nothing attracts its attention, the bird shifts its field of vision ahead, by another advance of a few feet, and again assumes a rigid pose. Occasionally the field of possibilities is improved by the bird's flicking over with its bill a leaf or two. But always the statuesque pose is quickly resumed. If, during this pose, some object on the ground happens to move, it catches the bird's eye, by reason of this movement, and is captured.

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Another example of this first category is afforded by the Black Phoebe (*Sayornis nigricans*), which selects an open perch three or four feet above the ground where it sits until some insect flies by. Then the bird, having quickly sighted the insect by reason of the latter's motion, sallies forth and, with remarkable accuracy of aim, snaps it up.

In these two birds, and in scores of others which will come to mind, such as the Great Blue Heron and the White-rumped Shrike, the relation is that of a *motionless* predator on the lookout for *moving* prey.

The second category is well illustrated by the Brewer Blackbird (*Euphagus cyanocephalus*) when it forages on a lawn. The bird walks rapidly and continuously, turning this way and that, with head moving quickly to and fro in unison with its footfalls. The motion of the head involves changes in the position of the eyes; and the bird is able, with wonderful acuteness, to detect among the grass blades motionless insect larvae. A gullet-full of these larvae, to be conveyed to the waiting young blackbirds, is obtained in an amazingly brief period.

It is this second type of behavior that I wish to discuss in an endeavor to arrive, if possible, at an acceptable explanation. The more I reflect upon the observed actions of birds, and of animals generally, the more I am confirmed in the conviction that there is no such thing as wasted effort. In other words, the "excess-of-vigor" idea, or more poetically the "joy-of-living" concept, does not properly explain the lively, sprightly, cheerful, joyous aspect of many birds—although these humanistic terms are often applied to them, even in our more serious ornithological literature. Really, every movement, every phase of activity, has its explicit meaning in the bird's program of maintaining existence. Hence an adequate explanation of these movements, involving stern utility, should be looked for with earnestness by every serious naturalist.

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Let us now cite the commonly observed actions of the Ruby-crowned Kinglet (*Regulus calendula*). People sometimes term this bird vivacious or nervous, because of its rapid or seemingly fidgety movements. Elliott Coues designated it as "the picture of restless, puny energy, making much ado about nothing." As a person watches the Kinglet passing through and over the peripheral foliage of a tree, incessant motion is, to be sure, its striking feature. This motion is seen to involve both the whole body, as operated by wings and clinging feet alternately, and the head, a member to be looked upon as the vehicle not only of the beak, the instrument of capture, but of the eyes, the chief sense organs concerned with the search for food. Even when poised out in front of a spray of foliage, on rapidly beating wings in almost the manner of a hummingbird, the Kinglet is continually moving his head this way and that. By virtue of this incessant motion on the part of the eye, he sees in relief, as he could not otherwise, the outlines of the motionless, fixed scale insect, the aphid, or the leaf caterpillar, and thereupon apprehends such insect, to devour it if it prove of food value.

Thus, the Brewer Blackbird, the Ruby-crowned Kinglet, most of the Warblers, and numerous other birds in the same behavior category, seek after *stationary* objects, and locate them by means of *rapid movements* on their own part. Our own human experience will help here in making the explanation clear.

Of easy verification is the greater ease with which a person catches sight of a distant moving object as compared with the same or a similar object at rest. Any hunter will recall the experience of having nearly or quite passed an object (such as a deer or a rabbit), in plain sight all the while, without noticing it—until the moment it moved; then as it started up and traveled across the background in which all other objects were stationary, the eye was quickly attracted to it and held by it.

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The result of the reverse sitation is, it seems to me, similar. That is to say, when one is looking for an object, such as a golf ball in the grass or an animal which he knows to be stationary like everything else in the background of bushes or trees, then he, the searcher himself, moves back and forth, at the same time intently observing the objects at varying distance from him as the seemingly differential movements separate them from one another so that perspective is emphasized. Indeed it is instinctive for a person to crane his neck, as the saying goes, to move the head and the upper part of the body this way and that, when looking for an object in the near distance. Objects all of the same color, shape, and size, or nearly so, which are at different distances will be separated out of the background, when viewed by an eye in side to side motion, as they never could be separated if viewed by an eye in a fixed position. The principle of the parallax, in astronomy, obviously enters here, in that an apparent displacement of the object observed is brought about by the actual displacement of the observer.

Furthermore, rate of movement bears direct ratio to ease of detection; the more rapidly an object moves across the landscape, the quicker is it picked up by the eye—within certain practical limits. The slow movements of a snake or a land salamander are much more likely to be overlooked than the sudden dash of a rabbit or a mouse. And conversely, the faster a searcher moves, again within certain limits, the quicker will he "pick up" the object sought.

To refer to the birds again, think of an individual of an insectivorous species, one closely fitted by structure into an ecologic niche so that its food is restricted in kind and location but must be found in adequate quantity to meet the needs of a high-pressure organism. Such a bird must cover much territory every day in order to get this requisite food supply. Remember that the maintained bodily temperature of passerine birds

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varies from 107 to 111 degrees F., and that their rate of living must be so much faster than our own as to make very difficult, on our part, an understanding of the sensations and reactions of such birds to their surroundings. Their experiences in an hour may total our own experiences of a day.

To get food is relatively easy for the Kinglets and Warblers when insect life is plentiful, in spring and summer; the remittal of the exigencies of food-getting then allows for the carrying on of other essential functions, such as reproduction and molting. But sooner or later there comes a time of lessening food supply, more or less of an annual famine period. And this is *the* critical time in the existence of the individual and also of the species. It is during these recurrent periods of most extreme food shortage that the whole equipment of the bird, including such intangible things as phases of behavior, is put to the vital test. The merest twist of the head may then be a matter of life and death. There is then no chance for parleying with stern nature. Recall the enormous expectation of casualty in, say, Kinglets—approximately 300 per cent annually, figured on the basis of the minimum population at the advent of the breeding season. In other words, 300 must perish each year for the 100 that survive until May.

All these considerations lead me to look for, in the forage behavior of different birds, specializations which adapt each bird closely to its own food source. One class of food items is characterized by motility and is chosen by a category of birds with particular structures and behavior coördinated with what might be called a phlegmatic temperament. Another class of food items is characterized by fixity—lack of motion. To obtain this class of food the bird called nervous or vivacious applies *the principle of rapid peering.* This faculty of rapid peering enables it to find successfully small stationary objects in foliage and among branches or grass blades, *as if these objects were moving and the bird itself were quiet.*

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GREEK AND GAEL GO VOYAGING

Grace L. McCann

In the preface to the "True History" Lucian has told why he invented that chronicle of most improbable adventures. It is to serve as a relaxation from more serious studies, to entertain, and at the same time to afford a little food for thought. Some fifteen centuries later a similar kind of tale appeared in France and England as a distinct branch of the literature of romance —"les voyages imaginaires," the French have named it. Two of the cleverest and most famous authors of "voyages," the Englishman, Jonathan Swift, and the Frenchman, Cyrano de Bergerac, are generally believed to be, to some extent, indebted to Lucian.

In De Bergerac's "Des Estats et Empires de la Lune," the debt to the "True History" can be traced with some certainty. The single striking fact that in the works of both writers the inhabitants of the moon are described as obtaining nourishment from the savor of cooking food is sufficient to establish the Frenchman's acquaintance with the "True History." There is also the similarity that both tales were written primarily to entertain and that the satire is incidental.

Whether Swift owed even the bare idea of the form of "Gulliver's Travels" to the Greek tale is doubtful, though he certainly must have been acquainted with it. In one of his letters there is a statement which proves that "Gulliver's Travels" was originally intended to be no more than a caricature of the exaggerations of

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travelers, the purpose which Lucian carried out in the "True History." But Swift's work, when it finally was published, had been so greatly altered that the voyage element had become merely the slightest of skeletons upon which were built bitter satires upon mankind and human institutions.

A few of the "voyages imaginaires" may have been suggested directly by the "True History," but the connection is usually too obscure to be traced. In most cases there is probably no connection; apparent similarities either are accidental or arise from the fact that the authors of this type of tale had little scruple in borrowing ideas, and even entire episodes, from the work of writers who had preceded them, and who may have made use of Lucian's tale as did De Bergerac. The most that can be said is that a certain kinship in form—they all employ some modification of the voyage form—places them in the same classification as the "True History."

In Ireland a system of tales very like these "voyages imaginaires" in subject matter had been taking form during the early part of the Christian era. These Gaelic romances are of a later date than Lucian's; "The Voyage of Maeldun," which can be most fairly compared with the "True History," did not appear in its present form earlier than the eighth century. It is quite possible that Aed Finn, the author, or perhaps merely the editor, of the Gaelic tale, was acquainted with Lucian's work, for it is known that Irish scholars of that period were well instructed in the classic authors. The two tales contain few striking similarities, however, that might tend to confirm such a theory. It must be remembered, too, that miraculous voyages over the sea to the "Land of the Living" are of frequent occurrence in the early Gaelic myths. "The Voyage of Maeldun" is too characteristically Celtic in its incidents to leave much doubt of its development from this independent source.

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Several good translations into English of the "True History" have made it fairly well known. The following is a brief outline of the story: A young Greek, eager for novelty, enlists in his venture fifty of his countrymen as adventurous as himself and sets out to sail across the western ocean. A violent gale drives their vessel before it for eighty days, but they weather it safely and at length arrive at an island, where they discover among other marvels a river of wine and a vineyard in which grows a plant, half woman and half vine. The river contains fish which are of the color and flavor of wine and which are so intoxicating that it is necessary to mix them with fish from water to temper their strength and to avoid their unpleasant effects. The Greeks find the kisses of the woman-vines intoxicating and two of the men who venture to embrace them take root beside them and become vines.

Scarcely have they sailed out of sight of land when they are caught up into the air by a whirlwind. Eventually they reach the Moon just in time to participate in a battle between the inhabitants of the Moon and those of the Sun. Lucian exercises his powers of invention to the fullest in describing the curious customs of the Selenites, which are certainly some of the most extraordinary imaginable. After leaving the Moon the adventurers again sail toward Earth. On the way down they stop for the night at Lamptown, the home city of all the lamps of the world. Lucian recognizes his own house lamp there and from him learns how things are at home.

Their rejoicings at finding themselves once more upon the ocean are hardly over when a still greater mischance overtakes them. A huge whale swallows them, ship and all. Within the monster they find an inhabited continent of considerable size and on it they live until the creature's death and their own escape a year later.

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They sail on and touch at several strange islands. The strangest of all is of cheese surrounded by a sea of milk. A little farther on they see men with cork feet walking upon the sea. Their next stopping place is the Isle of the Blest, where they make the acquaintance of many of the heroes of antiquity. Sailing past the Isles of the Damned, they stop for a short time at the Island of Dreams, and then at Calypso's island home, where the leader delivers a letter from Odysseus. The nymph entertains them most hospitably for a night and the next morning they set sail again.

Several times pirates attack the wanderers but on each occasion are beaten off. A forest of floating trees bars their way until they hoist up their ship and sail over the tree tops. When they come to a great cleft in the sea, they despair of continuing their voyage, but fortunately they discover a slender bridge of water by which they are able to sail across to the other side. In the island of the ass-legged women, the entire band is threatened by enchantment and death. Luckily, the leader discovers the evil intentions of their hostesses and by prompt action avoids the danger. Finally they reach the continent on the other side of the ocean. Here Lucian ends his tale, either because his power of invention is exhausted or because he realizes the art of leaving his readers unsatisfied.

"The Voyage of Maeldun" may be outlined in greater detail. There are altogether thirty-four marvels encountered by Maeldun. Many are no more than islands on which dwell strange creatures, though several are in themselves complete stories which reveal to good advantage the Celtic sense of beauty, romance, and mystery.

"The Voyage of Maeldun" begins with an account of Maeldun's birth and rearing. It goes on to relate how Maeldun, when he reaches manhood, desires to hunt down his father's slayer. He seeks advice from a Druid

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and is directed to set out in a coracle with exactly seventeen companions. Unfortunately, Maeldun has barely pushed off from shore when his three foster brothers appear and entreat him not to leave them behind. It is only when they cast themselves into the sea that Maeldun consents to take them on board, but the punishment for this disobedience to the Druid's counsels comes swiftly. When they are within sight of the murderer's island stronghold their little vessel is driven out to sea by an adverse wind. Then begin their long wanderings, which are to continue till the transgression has been fully expiated and the foster brothers have been disposed of one by one. The body of the story describes what they see in their wanderings.

After sailing by many islands on which they see strange beasts and monsters, they land on the "island of the little cat." Here is a tall white tower with great white houses upon the rampart around it. They enter the largest of the houses and find there no one but a little cat at play. The walls are hung with jewelry and fine garments and the tables are loaded with food and drink. The adventurers eat and drink their fill while the cat continues her play without noticing them. But when one of the foster brothers tries to carry off a necklace, the cat "leaps through him like a fiery arrow and consumes him." Maeldun soothes the little cat and replaces the necklace, and then they sail away.

Soon after they sight an island on which are grazing two flocks, one of black sheep, the other of white. The flocks are separated by a wall, and when their shepherd lifts the sheep across they become black or white according to the side on which they are put. By way of experiment Maeldun throws a white staff on the side with the black sheep. It changes to black immediately and the Gaels decide it is unsafe to land.

On the next island, which is very large, they kill and eat a small pig taken from the herd of huge swine that

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are there. In the middle of the island there is a high mountain for which two of the crew set out in order to obtain a view of the country. A broad river bars their way, and when they dip in their spears to try its depth the wood is consumed as if the river were of liquid fire. On the other bank is a huge man watching a herd of oxen. He calls to them not to disturb the calves, so they turn back and soon sail away again. Not long afterwards they come to an island on which there is a great mill with a giant as miller. He tells them that half of the corn of Ireland comes to his mill to be ground, for he grinds all that men begrudge one another.

When they reach an island of black people, all weeping continuously, one of the foster brothers lands. Immediately he, too, turns black and begins to weep, so they sail away without him. The next island is divided into four parts by fences of gold, silver, brass, and crystal. Kings are in one part, queens in another, warriors in a third, and maidens in the fourth. Maeldun and his men land and a maiden gives them food that looks like cheese but tastes as each man wishes it to taste, and an intoxicating drink that makes them sleep for three days. When they awake they find themselves out at sea far from all land.

It is some time before they approach land again. Finally they sight an island with a great fortress on it. A glass bridge leads to a brazen door in the building but when they try to go across it to the door, it flings them back, and when they strike the brazen door the sound it gives is so marvelously sweet that it puts them to sleep till the morning. Three times this happens, but on the fourth day a woman who every day has come out to the middle of the bridge to draw water through a trapdoor there calls each man by his name and invites them in. She entertains them well, but when Maeldun's men attempt to woo her for him she will answer only: "I know not, nor ever have known, what sin is." Finally,

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she promises them an answer the following morning; but when it dawns the wanderers are once more at sea, and there is no sign of either fortress or lady.

They sail on and come in turn to an island of shouting birds, to an island where lives an anchorite who has sailed from Ireland on a sod of earth, to an island where there is a fountain which flows with whey, or milk, or wine and ale, according to the holiness of the day, to an island of giant smiths, over a sea of clear glass, and over a sea, thin like mist, in which, far below, they see fortresses and fruitful land. Next they see an island surrounded by the sea as by a high cliff so that they can look down upon its cities and its people. The people seem much disturbed when they see them on the sea above their homes, and the Irishmen conclude that the inhabitants of the island have some prophecy concerning the destruction of their land by men who will one day come over the cliffs. They sail away to an island where a great stream spouts out of one side of the island and, arching over it like a rainbow, falls on the shore on the farther side. By thrusting their spears into the stream they take out as many salmon as they wish and the place is filled with the stench of those that they cannot take away.

Sailing on they reach a great, square silver column, rising directly out of the sea and with its top among the clouds. From its summit a huge silver net is flung far out into the sea, and through a mesh of that net they sail. One of the men hacks away a piece. "Destroy it not," cautions Maeldun, "for what we see is the work of mighty men." Before they have left the place they hear a voice from the summit of the pillar, but the words are strange and they do not know the language it speaks. There is a delightful element of mystery in this episode, and only a delicate and whimsical fancy could picture the huge silver net and the voice, speaking an unknown tongue, calling out from the clouds that hide the top of the tower.

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After they have grown very weary of the sea and fearful that their wanderings will never end, they come to an island on which there is a large fortified mansion. They land, and climbing a hill they see seventeen maidens preparing a bath in the courtyard. Soon a woman rides up on a race horse. The maidens lead the horse away and the woman bathes. In a little while a maiden comes out to the wanderers and invites them to enter, saying, "The Queen invites you." Within the fort they are well entertained, and Maeldun is wedded to the queen, and each of the maidens to one of his men. There they are promised eternal youth and all that they can desire, but, though Maeldun wishes to stay, his men grow weary. One day when the queen is away they set sail. Before they have gone very far, however, the queen comes to the shore and flings after them a clew of twine. Maeldun catches it and it clings to his hand, so she draws them back again. This happens twice, and the men at last believe Maeldun holds fast to the clue purposely, for they know he loves the queen. The next time one of the men catches it and again it clings, so they cut off his hand and sail away, while the queen weeps and wails on the shore. This incident suggests in many ways Odysseus' sojourn with Calypso, and Aeneas' with Dido. The Irish author, like Homer and Virgil, weaves the love element into his tale to heighten its interest, but he is too deeply interested in the fortunes of his hero to spend much time upon the woman, who is only an interesting incident in the hero's long voyage. The situation has a certain romantic beauty and sadness; though the hero may rest from his labors for a time in the enjoyment of a woman's love, he has his destiny to work out and he must not be turned aside, for long, from his task.

On the next island grow red berries which have a juice with intoxicating and soporific properties. After they have been at sea for a long time they land on an island where lives an anchorite, and with him they stay

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a while. One day they see an enormous eagle, old and apparently about to die, fly to the island. It bathes in a fountain on the island, whereupon its youth is restored. One of the Irishmen then bathes there, too, and he never knows old age. The third foster brother is left in an island where every one is laughing and playing. The island they see next has about it a rampart of flame which circles round and round continually. In one part there is an opening and through it they see beautiful men and women richly dressed, with golden vessels in their hands. They hear festal music, too, and it delights them so that for a long time they cannot bear to leave the spot.

Finally they arrive at a bare rock on which lives a monk from Tory. The holy man tells them his wonderful story, and entertains them at noon with food miraculously sent by Heaven. As they are leaving he says to them, "Ye will all reach your country, and the man that slew thy father, O Maeldun, ye will find him in a fortress before you. And slay him not but forgive him; because God hath saved you from manifold great perils, and ye, too, are men deserving of death"

With hope in their hearts from the holy man's words they sail on to another island at which they stop to obtain provisions. One of the men chances to notice that a falcon which flies off is like those of Ireland. On the chance that it is flying toward Ireland they sail after it, and in a short time they come to the island where the murderer lives. They go up to the dun on the island and hear the men within talking as they eat.

"It were ill for us if we saw Maeldun now," one says.

"Maeldun has been drowned," says another.

"Maybe it is he," suggests a third, "who will waken you from sleep tonight."

"If he should come now," asks a fourth, "what should we do?"

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"Not hard to answer that," replies the chief of them. "Great welcome should he have if he were to come, for he hath been a long space in great tribulation."

Then Maeldun strikes the door with the wooden clapper.

"Maeldun is here," he answers to the doorkeeper's inquiry.

They enter and are well received. They give thanks to Heaven and recount the long story of their wanderings.

So the long tale of Maeldun's adventures ends most satisfactorily with the hero's return home and his reconciliation with his father's murderer. Aed Finn's narrative shows many traces of Christian influence; and doubtless this reconciliation is the result of that influence. One need only recall Lugh's cruel vengeance on the sons of Turenn, or Finn's implacable hatred for Dermot of the Love Spot, to feel sure that such Christlike forgiveness had no place in pagan Gaelic legends. Some of the incidents, on the other hand, are unmistakably pagan. A Christian hero would scarcely have consulted a Druid about his voyage. Another example of similarity to an older legend is the bridge that would throw backward those who stepped upon it; a bridge like it appears in the Cuchulain stories as the approach to Skatha's dun. Perhaps Aed Finn—and, in fact, he claimed to have done no more—merely collected and arranged "The Voyage of Maeldun" from earlier tales, piously interpolating the adventures with the holy men and altering certain parts to greater agreement with the ideals of Christianized Ireland. The Irish are fond of blending pagan myths and Christian legends and frequently the product is pleasing. No more fascinating and delightful tale can be found than the story of the children of Lir, which is of this type. In "The Voyage of Maeldun," however, the episodes in which the holy men appear are the least interesting parts of the narrative. The adventure in which the eagle

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renews his youth is an exception, but even here the anchorite has no part in the principal adventure.

Few of the incidents in the Gaelic tale bear the least likeness to those in the "True History." Both tales tell of innumerable strange and gigantic beasts, birds, and men, certainly, and the island that was surrounded by the sea, like a high cliff, suggests Lucian's analogous impossibility—the cleft in the sea crossed by a bridge of water. Also, in both tales, women more than humanly beautiful detain the adventurers—with better intentions, apparently, in the Gaelic tale. But the greatest similarity in the two tales is the wildness of imagination which is common to both. Maeldun is content to wander only on the sea, while Lucian's heroes voyage even among the heavenly bodies, but it is difficult to decide which writer surpasses the other in extravagance of invention. Perhaps the Gaelic author may be admitted to be possessed of the more delicate imagination; certainly he employs the suggestion of mystery with great skill. Lucian's romance is more explicit in details and contains marvels that are grotesque rather than suggestively fanciful, like the net from the silver column in the Irish story. But the decision as to which story is the cleverer, or the more artistic must, of course, be left to individual preference.

Like the "True History," "The Voyage of Maeldun" became to a certain extent the model for later tales of the same type in Gaelic literature. A much later story, purely Christian in atmosphere, which is adapted from it, is "St. Brandain's Voyage." The story of Maeldun's wanderings appears in English literature in Alfred Tennyson's "Voyage of Maeldun," which is based upon an incomplete English version of the original.

Lucian's avowed purpose in the "True History" is to entertain and instruct. The Gaelic author wrote for the same end, for "The Voyage of Maeldun" is brought to a close in the following passage: "Now Aed the Fair

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[Aed Finn], chief sage of Ireland, arranged this story as it standeth here; and he did so for a delight to the mind, and for the folks of Ireland after him."

It is interesting to note the different manner in which Lucian and Aed Finn relate their stories. The Irishman describes the greatest of his wonders quite seriously and casts not a single doubt upon the miraculous circumstances surrounding the anchorites. He is the devout and marvel-loving Celt. Lucian, on the contrary, skeptical and sophisticated, spares neither philosophers, nor poets, nor heroes in his satire. His description of the Isle of the Blest secures him many opportunities of presenting ridiculously some of the most famous characters of antiquity.

The fact that this wonder-voyage type of literature should develop, apparently quite independently, in two sections of Europe so far distant from each other confirms rather interestingly what the popularity of travelers' tales from Marco Polo to W. H. Seward has tended to prove—the unappeasable thirst of the human mind for accounts of the strange and wonderful. Both tales have attempted to satisfy this craving, and the proof that neither Gael nor Greek succeeded badly is that their romances have not yet lost their interest even for modern readers.

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FREEDOM

DAVID P. BARROWS

Graduates of this Commencement, I shall not long detain you with my remarks, but I must express the joy of the University in you. Do not forget this day and hour; the pride in you of those who have come here today to see you graduate. The recollection will help you on many occasions. Do not fail today to enjoy the sense of having fulfilled your purposes, completed your courses, and succeeded. Do not minimize the value of your diploma. Some people are given to underestimating its value, but this is a pretty sensible old world and you will find no testimonial better than that of this expression of confidence in you which the University today bestows. As I shall dismiss you today from the embrace of this institution and bid you go out and follow the long paths that will take you all over the world, I wish to address to you a few words about freedom and its place in our lives.

As a people, we have placed freedom very high. It is written on all our emblems; our flag is the flag of freedom; our arms, the bird of freedom; and unquestionably freedom is the particular quality of American life and organization. People coming here from older and more closely organized societies feel this and respond to it amazingly. Yet today freedom is a far less controlling ideal than formerly. Lord Bryce, who in the fullness of experiences and dignities has just published

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a work on modern democracies, expresses well the character of our time. "The ideal of happiness," he says, "may change from that of birds wantoning in the air to that of bees busy in carrying honey to the common hive. We perceive that the enthusiasm for liberty which fired men's hearts for a century or more from the beginning of the American Revolution down to our own time has now grown cool. The dithyrambic expression it found in the poets and orators of those days sounds strange and hollow in the ears of the present generation, bent on securing, with the least possible exertion, the material conditions of comfort and well-being."

I think there is plenty of evidence in support of Lord Bryce's judgment. The peoples and leaders for the moment have turned from the old ideal of freedom toward other goals. They are prepared to sacrifice freedom in order to obtain these other ends; but I bid you, as my parting word, to love freedom; to defend freedom; to set it higher than any other condition of existence. I do this with confidence because I believe that God created freedom, and I believe that God has placed it higher than human well-being. How else can we explain the old dilemma of the prevalence in the world of evil? The Heavenly Father permits evil because to suppress it would be to destroy freedom; therefore his solicitude for freedom must be greater even than his purpose to extinguish evil. God is freedom—*ubi spiritus domini ibi libertas.*

Government as it should be exists that men may have freedom. There is no freedom in savagery and barbarism. There is no freedom in anarchy or the absence of government. Freedom exists only where government exists and where it has as its fundamental aim the protection of men in their freedom. Governments today are strongly tempted to suppress freedom in the pursuit of two other ends: the regulation of morals and the control of economic competition. I suppose none of us here

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would deny that government has a duty both to protect the moral integrity of the community and to limit excessive competition, but a government's part is a restricted one, and when it gives itself free rein, it dissolves the strong will and self-reliance of men, on the one hand, and it degrades men into serfdom, on the other. This reactionary spectacle of Russian Bolshevism merits condemnation on EVERY ground, but particularly because it has so ruthlessly suppressed freedom in favor of power.

Guard your own freedom as you mingle with men and as you seek to succeed. Guard your freedom first, let me say, against patronage. How many men and women we see pressing here and there, building fences, petitioning support, making themselves clients and dependents of peoples of all sorts, under whose will they must henceforth live. Oh, do not ask, do not accept such bonds of obligation! Owe nothing to any man! Pay your debts! Accept no help which puts you under improper obligation! Of all the degrading and disgusting enslavements through which men and women forfeit their freedom, patronage is perhaps the most calamitous, as it is the most ridiculous of them all.

Do not sacrifice your freedom for position. High and responsible position is greatly to be coveted. It is, or should be, the main object of your ambitions. But whatever position you win or assume, I charge you not to let it impair your freedom. Don't be a job seeker. Do not cling to a job. Do not let yourselves grow into the feeling that you are dependent upon a place. Never retain a position, no matter how considerable the satisfaction and the dignities which it affords you, longer than you can retain it with full self-respect and without sacrificing your freedom.

Finally, I bid you to regard self and freedom. All of us are, in a greater or less degree, the slaves of self. All of us have tastes, appetites, indulgences, which we

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allow to dominate us in fuller or lesser degree. Life is an unceasing conflict for the mastery of these lower elements of our natures. We have freedom only in proportion as we triumph. No man has freedom who cannot prevail against the passions of his nature. Unsubdued, they will drag him from one embarrassment to another, until dignity is lost and life ends in debasement and in failure. Study the Apostle Paul's repeated analyses of this problem. No man ever analyzed it better; ever more triumphantly expressed the freedom to be won. "I bring my body," he writes, "into subjection. I forget the things that are behind. I press on toward the goal of my high calling." That is freedom; freedom in its relation to self.

Above everything else that I want you to be, I want you to be victorious and free. Recall the quiet but emphatic words addressed to us a few weeks ago by Elihu Root, testifying to the stirrings produced in him by the sight of our University company because he knew that in that company there were possible leaders of great and unrevealed powers. I feel this as I look at you this morning. Leadership, eminence, gloriously sound reputation, wide fame, all of these possibilities await and attend upon this graduating body. They will not come to you, however, unless, first, you have ambition already born in you. Ambition seldom comes to men late in life. It must be born early. It must press us on and on unceasingly, never satisfied with one attainment, always keeping a distant goal before our eyes, or it cannot speed our steps fast enough and directly enough to attain fame. I hope among you today there are great ambitions. I hope you may attain these ambitions, and what I have said today in word of counsel is meant to convince you that you cannot arrive at these ambitions except as your freedom is eternally guarded and preserved.*

* Commencement Address, May 11, 1921.

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THE DREDGER

LAURA BELL EVERETT

"How many toiled to death that this might be?"
So asks the thoughtful one who stands
The Pyramids beside, in olden lands,
Lands great in all except humanity;
But when, beside our rivers flowing free,
You view these pyramids of stones and sands
Piled here because the search for gold commands,
With wingèd words you turn to question me:

"Has Attila's horse trod here, that nevermore
Shall grass blade grow upon the riverside?
When will all they who love the land implore
That laws shall check this monster, ere it ride,
A Juggernaut, our river-country o'er
In lust of gold that in these sands may hide?"

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THE "NEMESIS OF MEDIOCRITY"
A REJOINDER

CHAS. B. LIPMAN

It is very easy to draw erroneous conclusions from perfectly good facts, and especially from what seem to be good facts. This, in the writer's opinion, has been done in Cram's *Nemesis of Mediocrity,* first published in 1917 and reprinted twice in successive years. It is my purpose here to review the essay critically so that those who may wish to hear the other side of the argument can do so. Mr. Cram's thesis is intended to show that democracy is a failure and particularly in respect of the paucity in leaders which it produces. Mr. Cram does not consider the bearings of democracy in man's evolution, and as a passing phase therein, whether it show "degradation" or not, but as the cause itself of man's "degradation." He believes that the tendency of democracy is not only to produce a "dead level" in humanity, but that such a process renders impossible the development of outstanding leaders, since the levelling process not only improves the masses and raises them to a certain level, but also deteriorates the unusually good intellect and drags it down to the general level. In support of this claim, Mr. Cram cites what he regards as the general dearth of leaders "in any category of life, issuing out of any nation."

While thus Mr. Cram speaks of leaders in general, he seems to have ever before him the question of leaders

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in the military and diplomatic mêlée in whose agonizing clutches we have been writhing during the past five or six years. Nevertheless, we may consider the subject as Mr. Cram intends to do, in general, as well as in the specific phase to which I have just adverted. Speaking of the situation in the early part of the war, Mr. Cram says: "Potential reputations break down and are forgotten in Mesopotamia, Gallipoli, Galicia, Roumania, the Trentino, the Carso, Champagne, the Argonne; on the North Sea, in the Channel, through the Mediterranean." But can Mr. Cram cite any war in which many "potential reputations" did not break down before a great general was developed? Has he fogotten to take just a few examples of the many which might be cited from history, the campaigns of the Punic Wars, of the states allied against Napoleon, of the Hundred Years' War, and of many others, and the weary months of terror and agony that surrounded them before their great leaders began to appear on the brightening military horizon? Can he indeed cite any phase in human history in which many "potential reputations" were not required to break down in order to show emerging from their disintegrating remains the virile leaders for the task in hand? In fact, Mr. Cram admits in his postscript to the third printing of his essay that great military leaders have, at the proper moment, emerged from obscurity and saved the day, even in the greatest of our great wars whose first agonies prompted the bitter, pessimistic utterances under review. Parenthetically, one wonders, now that Mr. Cram's postscript is written, if leadership is not in his mind synonymous with success. The general lack of definition for the terms "leader" and "leadership" of which Mr. Cram's writing gives evidence, makes one wonder by what criteria he makes his judgments, and by what he establishes the right of his heroes to an appropriate niche in his "hall of fame." Reviewing Mr. Cram's list of great leaders in the Great War as

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given in his postscript, I would venture the opinion that the power of a man to win in a game, no matter how friends, fortune, moral support, and other factors, besides his own ability, favor him, constitutes him a leader in Mr. Cram's interpretation of that term.

But Mr. Cram remarks (1917 and 1918), in an anticipatory vein, that fate is "whimsical" and may yet develop great military leaders in that war, "but," he adds, "there is little hope for a like mercy in statesmanship." Why? I would ask in reply to this dogmatism. In such matters nothing but experience can be followed as a safe guide to our judgments. And our experience certainly teaches us that great leaders arise in any field of human activity under the stimulus of similar forces, albeit we know not what those forces are. Not only are such leaders appearing today in the persons of Clémenceau, Lloyd George, and their colleagues, but we may lay a little flattering unction to our souls in hugging the belief that our present-day leaders are at least a whit less Machiavellian in their methods and aspirations than their predecessors. It is a curious quirk in Mr. Cram's mental or moral processes which appears to lead him to prize leadership above decency and to bemoan the non-existence of a certain leader or leaders, no matter how Mephistophelian might be the basis of his leadership. To quote him, "noble or cynical, they were leaders, these men of a dead generation: Metternich, Cavour, Disraeli, Bismarck, Gladstone, Gambetta, Lincoln, and they have left few successors either to their glory or their infamy." Fine rhetoric that, but why shed bitter tears over the passing of leaders who with two, and possibly with only one, exception have led the world only into misery and strife by their intrigues and shady diplomacy? The world is today paying, oh! how dearly, in tears and human misery and in everything it loves for the dastardly machinations of those sombre "leaders" whose exit from the "stage" Mr. Cram mourns. The one

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undoubted exception to this characterization of Cram's list of leaders is Lincoln. That Lincoln was a great leader in a true and wholesome sense, no one can deny. And we have no Lincoln today! the more's the pity. If Mr. Cram, however, had been writing before Lincoln's assassination, it is doubtful if his appraisal of our martyred president would have been the same. But does the lack of a Lincoln now prove that our democracy is responsible for a human condition that is inimical to the production of another Lincoln? Not at all. Such really great leaders, like all things approaching the sublime, appear but rarely. They always have, and probably always will, but that is no excuse, in itself, for claiming the insolvency of democracy, nor for experiencing any trepidation of spirit on that score. As well weep for the future—and this is said in the utmost spirit of reverence—that not another leader with the sublime attributes of Christ has risen in the last twenty centuries from our "common clay." The rare, the sublime, the surpassing genius, the approach to perfection, we cannot expect to arise every day in our midst.

"Can there be honest comparison," asks Mr. Cram, "between the political leaders in Great Britain today and Peel, Palmerston, Gladstone, Disraeli, and Salisbury, between the flotsam and jetsam of French parliamentary turbulence and Thiers, Gambetta, de Freycinet?" And so the fluent questions and rhetorical exclamations continue about Italy, Germany, the United States, and end with the following flourish, "Whether you like them all or not, these men of an elder age, one thing you must concede, and that is their capacity and their dominance as leaders." I shall not take the time nor the space to discuss whether or not "these men of an elder age" possessed the "capacity" and the "dominance" for leadership. It seems to me that a much more vital question is, Did their leadership elevate the plane of men's morals, did it stimulate their will to be altruistic, did it,

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in a word, make better men and a better world? If it did not do these things, that leadership was nugatory and vain, and, like the glittering gold in "Cinderella," has turned into dry and withered leaves. But even considering the question on Mr. Cram's own basis, what is there so sublime in the accomplishments for France of his Thiers and his Gambettas, that can compare in any sense with the mighty victory that France has just won from the sinister political descendants of his hero Bismarck? Have not Clémenceau and his lieutenants, both in the war, and in the making of the treaty, shown a power, an endurance, a statesmanship that have never been surpassed? What more can any one ask for, if one cares for that sort of thing and admires it at all? It is so easy to be blinded by false values, so easy to be influenced by the pictures of the past from which time has faded the colors that jar. Even our great Lincoln did not appear in the press of his day in the favorable light in which we portray him today. No! No! Mr. Cram, you must show more convincing evidence of surpassing leadership on the part of "these men of an elder age" before we can admit it to be of superior value to that of our own age. Indeed, you have still to show whether most of it is worth admiration at all, when we consider the intrigue, the shady diplomacy, the wars, the misery, the human anguish which have followed in such heartrendingly large measure in their wake. When all this is considered, when one remembers the Palmerston and the Gladstone that Henry Adams paints in his *Education of Henry Adams,* one wonders if there cannot be honest comparison between those two worthies and Clémenceau resulting much in the latter's favor. Likewise, one wonders why we cannot honestly compare the members of Lincoln's and Wilson's cabinets, and the members of Congress and other politicians of the two periods, without finding much to choose from if, again, one remembers the picture which Henry Adams paints

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as follows: "One could search the whole list of Congress, Judiciary, and Executive during the twenty-five years of 1870 to 1895, and find little but damaged reputations. The period was poor in purpose and barren in results."

I fail, moreover, to find the "unquestioned difference in quality" which Mr. Cram claims to have discovered between the leaders, in other fields than politics, of past generations and those of today. In what respects does Gladstone really surpass Harmsworth when one considers the intimate history of the two men and especially the motives and results of their work? Besides, why choose Harmsworth to compare with Gladstone when so many Englishmen today would make a more favorable comparison? Why not consider for comparison Bryce and Balfour and Lloyd George? Also why compare Bryan and Cleveland? Why not Cleveland and Wilson, or Cleveland and Roosevelt, or Cleveland and Root, or many others—which would make a fairer comparison? As for the comparison between Benedict XV and Leo XIII, one must remember again that a pontiff of the latter's mastery, good or bad, arises only infrequently. To use Mr. Cram's own method, why not compare Leo XIII with dozens of his predecessors who were nonentities, and thus prove that the quality of popes is improving as time goes on? The argument is equally weak and pointless either way.

Again, why compare Wells and Emerson, when Bertrand Russell and Emerson would make a fairer comparison, or even Masefield and Emerson? When one has read and appreciated the remarkable philosophy of Bertrand Russell, when he has been inspired by the surpassing sonnets and other powerful poems of John Masefield, one wonders how any one can honestly or justifiably point the finger of scorn at the mind and genius of our day and claim it to be inferior to that of the past generation, and especially so inferior as to indicate our rapid decadence and to prove this to be the result of democracy.

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Mr. Cram makes a similar comparison also in music between Ornstein and Brahms, to show how quality in music is rapidly deteriorating, again because of the baneful effects of democracy. This is indeed a sad comparison. In the first place, there are masters in the musical world who consider Ornstein's work as wonderful as that of any great composer, barring the sublime rarities of the type of Beethoven. But even if this be not so, mark how pitifully and unjustly misleading is Mr. Cram's comparison for the world of music as it was and as it is. Mr. Cram never mentions Bloch, who is considered by many musicians the greatest of living composers and a man of real genius. But composition is not the only field in music. Have we ever had more sublime virtuosos than we have today? Have there ever lived more inspiring interpreters of piano composition or symphonic music than are living today? Think of Kreisler, of Elman, of Heifetz, of Rosen, and many other unsurpassed violinists. Think of Hofmann, Bauer, Godowsky, Gabrilowitsch, Rachmanninoff, and others in that remarkable galaxy of stars in pianistic interpretation. Think of Muck, Campannini, and their like, in the interpretation of the symphony, and as orchestral conductors. And then tell me when we have produced greater leaders in the interpretation of this gentlest and most sublime of arts. Considering especially the comparative youth of most of these remarkable musicians of our day, one wonders if "the hungry sheep look up, and are not fed."

Mr. Cram makes so many statements which, in my opinion, are subversive of the facts, that it seems essential to reply more or less in detail to his arguments. Following his wail over the deterioration in the quality of leadership in politics, in literature, and in music, he indulges in the metaphor "that inch by inch the valleys are being filled and the mountains brought low." Mr. Cram evidently overlooks the fact that the filling of

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valleys and the erosion of mountains are processes in the natural evolution of the earth, and that, like other processes in both animate and inanimate nature, they have their cycles, so that, while mountains are being lowered in one place, they are being built up in other places. So it is with our human leaders. We are constantly losing some, but likewise constantly new ones are springing up. To argue that their present quality compares unfavorably with that of the leaders of former ages needs much stronger support than such a dogmatic statement as Mr. Cram makes. The basis for judgment is particularly important. Thus Mr. Cram mentions Giolitti and Caillaux, Ramsay Macdonald, Lenine, and La Follette, as "synthetic products" of types of human thought and quality which are inferior to the best, but which, being in their own time the best or most powerful, are chosen leaders by those who most closely reflect their own crudities. The men who have just been named, with the possible exception of Lenine (and even he may not be an exception) are leaders, not of large, but of small groups, and they are therefore no just example of democracy's choice of leaders. One need not cavil at Mr. Cram's belittling of some of those leaders whom we have just mentioned, and yet one can easily show that they are passing phases in our social and political evolution and nothing more. To assume them to be indicative of the progressive degradation and decay of democracy and its influences on humankind is preposterous. Look at the history of the presidency of the United States of America. There was a Washington and a Jefferson, and then mediocrity until John Quincy Adams came along. Then there was more mediocrity until Lincoln came; more mediocrity until Cleveland came; more mediocrity until Wilson came, and mediocrity is in the saddle again. Mediocrity and unusual quality are adjudged by me in the foregoing lines, not on the basis of what the "man in the street" would call outstanding leadership or lack

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thereof, but on the basis of dominating mind or dominating heart, or a combination of the two, which stands preëminent among such qualities in the man of a given day. In other words, refusing to adopt Mr. Cram's vague and indefinite criterion of greatness and leadership, I have chosen to hew to the line and adopt some basis which is more concrete and tangible than human passion and bias. The men in the presidency whom I have mentioned as great and as supporting the idea that great political leaders, like everything else, appear at certain times in the cycle of our evolution, possessed that innate power of mind or heart, or both, which probably all thinking men would agree is great. That such men in the presidency may often have failed to carry out their programs of action does not, in my opinion, detract one whit from the real quality of greatness which they possessed. The intellectuals of a given period know it of the great in their own period; the ordinary man does not know it until years have passed, and until from the symplastic mass of circumstances in which a leader has been enveloped, time has removed the clogging and blurring mass of undifferentiated material and left clearly in view the outstanding, dominant figure. This has proved to be true of all the great presidents mentioned above up to the time of Cleveland. Even a few brief years have proved it to be true of Cleveland, and the same will probably be true of Wilson in due course.

Mr. Cram launches into other fields of human thought and activity to prove the baneful effects of democracy. The conditions which he imagines have produced the Caillaux and La Follettes he deems answerable also for what he assumes to be the lack of dominant figures in religion, like St. Paul, St. Benedict, St. Bernard, St. Francis, St. Catherine of Siena, or even like Luther, Calvin, or John Wesley. Here, again, the standard of judgment must, of necessity, count for so much that it seems ludicrous to try to prove so sweeping a dogmatism

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as that which forms Mr. Cram's chief thesis. There are, unquestionably, in our religious circles of today, persons of equal prominence and ability for leadership with those just mentioned. And only recently we have had with us Mrs. Eddy and Joseph Smith, whose followings have become numerous and powerful. By reason of the fact that others find it unnecessary to start new sects, and by reason of the further fact that the populace regards religion very differently than it did in bygone days, they are not brought into the limelight as were "these men of an elder age." The powerful leadership, for example, of such a man as Cardinal Gibbons was probably as great as that of Wesley, Calvin, or Luther, but his opportunities have not appeared to accentuate in the popular mind the existence of those qualities.

Likewise, in philosophy, the conditions have so changed that we can no longer expect in the philosophical world figures of an eminence which compares with that of Plato or Aristotle, since they were men who represented science as well as philosophy. When we consider the situation in science today, we can readily see where much of the ability now goes which formerly went to philosophy, and certainly there, Mr. Cram would not claim that mediocrity is the existing condition.

Since modern science is an offshoot of philosophy, it is well for the essayist, in attempting to support his thesis, to bear in mind such eminent names in science as those of J. J. Thompson, Rutherford, Poincairé, Arrhenius, De Vries, Michelson, Emil Fischer, Lorentz Einstein, Loeb, and a host of others almost, if not quite, as eminent.

Mr. Cram criticizes the situation with regard to trade unionism, and like social movements, on the ground that incompetent leaders are chosen in our labor movements. Does he know of the excellent leadership in the British labor movement, or of the fine spirit, high ideals, and cultivation, which characterize the men who are responsible for its progress?

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Again, Mr. Cram tells us that we are not justified in opposing to his view the argument that we are too near the present to be proper judges of the situation. He says he is speaking of leadership, "and leadership is not posthumous." Leadership is not, of course, "posthumous," but the recognition of the quality which makes for leadership requires perspective. History shows us innumerable examples of the quality of greatness in leaders which was never recognized during their lifetime. As one of the great men in science, who is but one of the many in such a field, we may mention Willard Gibbs. To assert, as Mr. Cram does, that people entering into the activities of life about 1880 were aware of the large number of leaders among them, is merely to make an assertion without proof. Mr. Cram tells us that he has made a list of sixty names, to which he could probably add another hundred, of men who have attained greatness in his generation. Among them, he mentions Emerson, Carlyle, Ruskin, Matthew Arnold, Herbert Spencer, Darwin, Bismarck, Disraeli, Cavour, Wagner, Browning, William Morris, Turgenev, Stevenson, Leo XIII, Cardinal Newman, Karl Marx. It must be remembered that in mentioning such names, Mr. Cram has the benefit of perspective in practically all instances but, even in our own day, we can make a list which compares favorably with that. There are Masefield and Wells, Ibsen, Maeterlinck, Thomas Hardy, Meredith, George Bernard Shaw, Bertrand Russell, Geikie, Arrhenius, Einstein, Emil Fischer, Lloyd George, Clémenceau, Venizelos, Foch, Allenby, the Cardinal of Malines, and scores of others.

Mr. Cram tells us that "Democracy has achieved its perfect work and has now reduced all mankind to a dead level of incapacity, where great leaders are no longer either wanted or brought into existence, while society is itself unable, of its own power as a whole, to lift itself from the nadir of its own uniformity." The wholly unjustified claims set forth can be refuted and rendered

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ludicrous by a list of names of leaders in every field of human activity today that will compare very favorably with any list that Mr. Cram could produce from an earlier age and, secondly, by the observation that, even if mediocrity is in the saddle, Mr. Cram would have to prove that democracy is responsible for it. We are told, further, that the only thing which has saved the cause of the allies in the recent world war was the substitution, in certain places, of much of absolute autocratic methods for democratic methods, and this is used as an argument to prove the failure of democracy, and its inadequacy to the production of great leaders. Must we always go on gauging the greatness of a nation in its time and the greatness of its leaders by the perfection of its system of chicanery and political wirepulling which makes a world power? Even if we should grant, which I am not willing to do, that politically speaking and from the point of view of old world diplomacy, democracy is not a success, has Mr. Cram ever thought of the numerous advantages due to extremely high development which, in turn, are possible only in democratic communities? Can anything be more flagrant and more untrue than the following statement made by Mr. Cram: "The peoples are worse off than they were fifty years ago, while during the same period, government and society have become progressively more venal, less competent, and further separated from the ideals of honor, duty, and righteousness." However sad may be the political muddles which have resulted from the world war, however great our social and economic problems, however thin the veneer of civilization which covers untamed man, it seems to me that no one can, with justice and truth, assert that the ideals of "honor, and duty, and righteousness" have ever been higher than they are today. It is again astonishing to note the use by Mr. Cram of certain statements which he calls commonplaces, and which, in my opinion, are anything but that. He claims, "It is a commonplace

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of sociology that the American-born son of the foreign-born immigrant of a decadent race or inferior blood, who himself had reacted to the stimulus of a new environment and unprecedented educational opportunities, is not, in general, an advance over his progenitor either in character or capacity, but rather, however great his educational acquirement, a retrogression and a return to type." Where did Mr. Cram find that kind of dogma, and by what right does he state it as a "commonplace"? It seems to be a brand of sociology which is Mr. Cram's very own and to which I can find very few people who subscribe. How does he determine what a decadent race or one of inferior blood is? What are our criteria, what are our facts? The statement is not only inaccurate; it is grotesque. The plunge of the essayist into the realm of eugenics is interesting, but his conclusions are doubtless all wrong.* With the usual incapacity of the popular mind to grasp the truths of science, Mr. Cram confuses different theories in genetics and eugenics, and derives a kind of chaotic conception which is only fitted to arouse pity; and this is the kind of material by which he is attempting to educate those who have no basis for education in those fields. Let the geneticist judge the next quotation from Mr. Cram's essay, which is really too ludicrous to deserve further comment: "Cross fertilization and the production of special and higher types thereby, is a perfectly artificial process, and however brilliant the result in the first instance, the tendency of reversion to type is inexorable. Either the result is a hybrid without power of propagation, or a precarious phenomenon tending inevitably towards a retrogression that in a few generations comes back to the normal type." How much Mr. Cram could learn from an undergraduate course in biology in any of our modern universities! When Mr. Cram speaks of sterile hybrids resulting from

* See Franz Boas' review of *The Rising Tide of Color against White World Supremacy*, by Lothrop Stoddard, in *The Nation*, Dec. 8, 1920.

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cross-fertilization, or from crossing, and tries to apply the principle to the crossing of human races, he is evidently quite confused on fundamental questions. Crossing of different *species* nearly always results, but even then not always, in sterile hybrids. But the races of man are not species, but varieties, and certainly Mr. Cram must know, if he will think a minute, that no races among the races of man are known to have produced sterile hybrids. The whole question of the intermingling of the races and the results thereof is "shot through" with difficulties and complexities which do not allow of any simple interpretation, as is clearly shown by the numerous writings of our leading investigators and students of genetics and eugenics. Evidently without a knowledge of these numerous writings, Mr. Cram decides to settle the question by one sweeping statement. There still remains the gravest doubt in the minds of the most eminent students of the subject as to whether or not the intermingling of races in such a country as this, for example, and excluding the intermingling of the black with the white, is tending toward a better or an inferior population. In fact, the tendency of expert opinion seems to be in the direction of believing that the intermingling of races will result in improvement rather than in inferiority.

Many other quotations of a similar nature might be given to show Mr. Cram's total ignorance of the subject which he discusses at some length, namely, eugenics or some phases thereof, but lack of space forbids.

The essayist makes a further astounding assertion as follows: "With no defensible standard of comparative values, all the spiritual and mental force in man is turned toward the realization of the unimportant, to which accomplishment it is given with a prodigality hardly equalled in the middle ages when it was lavished on the realization of the essential." On what basis does Mr. Cram claim that human efforts are at the present

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time dissipated on the unimportant? How can any person living in the twentieth century make any such assertion as that? What in heaven's name is the important in Mr. Cram's view? To criticize the status of man today is one thing, and no one more than the reviewer sees the need for sharp criticism, but to make sweeping assertions without any proof, especially when there is so much proof to the contrary, is not worthy of any one who would call himself intelligent and honest.

Finally, in the postscript which Mr. Cram wrote to his essay and which is dated 12 February 1919, he invalidates much of his own thesis, if not most of it, by making this statement: "By the time this postscript is published, not his alone [Clémenceau's] but other salient claims to man-mastership may have been decided either in the negative or the affirmative." Even one year has made this sudden change of attitude in the pessimistic essayist, who writing in 1918 referred to M. Clémenceau as "superannuated." Mr. Cram refutes his own assertion that leaders may be estimated at the beginning of their life activity, or in the midst of it, by making the following statement: "Of the ultimate result for the world, it is still too early to venture a forecast. On the historians of the far future must fall the burden of estimate."

I have attempted thus briefly to lead the reader of Cram's *Nemesis of Mediocrity* back to the path of clear and just thinking from which the specious rhetoric of that essay may have deflected him. In an age of the high scientific development which characterizes the twentieth century, it is not meet that our appraisal of men and things shall be conducted with no justifiable criteria and with the curse of bias and prejudice ever at our elbow. The time has arrived for truly scientific judgments of men and things, and when no scientific judgments are possible, because of lack of facts, for patient charity. In any event, I can see no reason to sigh so deeply for the lack of leadership when only the kind of leadership

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has changed and when people have come to be so far emancipated as to require less leadership. Besides, leadership of the present is at a disadvantage when compared with leadership of the past, for the facts of the past are more dim and rare in our memories, and unpleasant memories, as is well known, depart sooner from human minds than the pleasant ones.

At all events, be it clearly understood that the claim that there is less leadership today than there was in past generations is not proved and I think I have proved above that the leadership of today is just as notable as that of an "elder age." Be that as it may, there is certainly no proof that democracy has contributed either to the disappearance of leadership or to the decay of its quality. Such an assertion on Mr. Cram's part constitutes merely a begging of the question. History, I think, clearly shows that the really great leaders come only rarely into our midst, appear with no regularity, and are not products so far as we can determine of any age or clime, but are synthesized through combinations of circumstances as regards inheritance and environment which we have not yet learned to understand and estimate. The leaders of the lesser magnitude, which class includes most of those whom history calls great, are found in every age, in every clime, in every walk of life, whether we in our limited vision can recognize them at close range or not.

I cannot see, therefore, any justification for the weeping and gnashing of teeth at the erroneously supposed influence of democracy in inhibiting the development of leaders. No one has yet proved that any democracy suffers because of a dearth of leadership. But if any one should actually adduce convincing proof in support of such an assertion, he must still prove that democracy is responsible for that undesirable condition. On the other hand, democracy is raising the level of the masses, and that does not necessarily imply any accompanying levelling of the "peaks" to the dead level, as

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Mr. Cram would have us believe. We should therefore be grateful for the elevation of intelligence and civilization of the masses which democracy renders possible so quickly and so notably, and through which, I think there can be no question, the spirit of toleration has grown by leaps and bounds. It is this spirit, moreover, when fully developed, that will make possible the full consideration for the rights and feelings of one man by another which is more likely to constitute for us a real civilization than is the kind and degree of leadership for which Mr. Cram craves. In democracy, therefore, if careful thought is given the situation, it will appear that we are losing little, if anything, over the régime of autocracy and we are gaining much in other directions.

Let it not be assumed that the writer is unmindful of the infelicities and inadequacies of our prevailing democracies. No thoughtful person of today can be blind to the weaknesses, the waste, the inefficiency, and the wholesale corruption which have crept insidiously into our body politic and have become inextricably woven into the warp and woof of our social fabric. As scientific men, we cannot deny facts. Nevertheless, it behooves us also to keep from condemning things or systems in their entirety because of the weak characteristics that blend with the strong ones. Particularly should we be cautious about drawing a conclusion such as Mr. Cram has drawn without indubitable facts in its support, and then to add insult to injury by ascribing the condition of that conclusion to an alleged cause which has not been proved to be a cause. Democracy, replete with variables and with opposing factors, is too complicated a structure to serve as a unit influence in any one direction, either as a stimulus to, or an inhibitor of the formation of leaders. I believe with Santayana that greatness is spontaneous, as history would seem to indicate, and that, within wide limits, it is independent of the medium from which it springs.

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THE STUDENT AND THE SCHOLAR

Régis Michaud

The Phi Beta Kappa Society has asked this year a professor of French and a citizen of France to deliver the annual address. The Phi Beta Kappa certainly did not expect him to compete with the masters of English speech, some of whom we have among us, but as a friend, an ally, and an acquaintance of several years, they expected him to put forth in clear and sincere language what he may have in mind concerning the student and the scholar and their interrelations.

Many words have invaded our modern world and made obsolete the word, scholar. For hundreds who speak every day of the physician, the electrician, the chemist, the journalist, how many mention the scholar? To be a scholar nowadays, does it not sound like being somewhat of a fossil? Is not the scholar a vague and too general disguise for the man who is unable to be anything in particular and who satisfies and prides himself in being everything in general?

To be a student has a meaning, and students know it well: to sit in classrooms for four years, to be tested, quizzed, examined, assigned, to be served with solemn warnings, hasty meals, hasty studies, to be able to face, at a moment's notice, a quick firing squad of questions on any topic from Sanskrit up to veterinary science, and then to be dismissed with black cap and gown, the color of so many dead illusions. This disenchanted

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definition of what a student is, if not of what he should be, would hardly be surprising if read in the columns of some wild *Pelican* or *Occidental* bulletin. Indeed, without the company of the scholar, the student seems to cut a rather poor figure and to be a pathetic entity. Shorn of his wings, if I may so put it, and of his highest ambitions, the student may well be considered by the public at large and even by his torturers as a scapegoat and a martyr. A friend of mine was returning to France after having served as an exchange-professor in an eastern university. A reporter met him on the boat and wanted to know what the French professor thought of his American pupils. "Your American student is a fine chap," said the professor. "His intensity is wonderful. He is quick, aggressive, he takes himself in earnest, he goes to study as he went to battle. The world he considers his by right of conquest and he simply storms the position to the best of his ability. "And then?" asked the reporter. "And then the student in your universities most of the time fails in his attack." "Why?" "Because he simply forgets to prepare for it with *feu de barrage,* heavy artillery, gas masks, ammunitions, and reserves. He goes to battle in light infantry, *infanterie légère, à la mousquetaire,* and if he is not killed on the spot he becomes a prisoner . . . ." "A prisoner of what?" asked the reporter. "Of your system, of your American machinery—your beautiful up-to-date machinery, your hurried education, your slap dash instruction for business people—the fastest, the speediest in the world." And before the reporter could catch his breath, the Frenchman was upon him with a quotation from a play by Eugène Brieux in which that well-meaning playwright puts on the stage a victim of what stands to the eyes of a Frenchman for the last word in American efficiency, the Taylor system. This is what the French exchange-professor recited to the American reporter in New York. The man who speaks is a French workman

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somewhere in France after the armistice, who is out of humor and in revolt against the American systematization of labor:

> To be a slave to your machine, to your system of economy of motion, maximum of efficiency, to your *taylorism,* as you say, to your *terrorism,* as I call it, this is a frightful thing, Sir. You have to stay by your machine, to obey it, to serve it, to forever and ever make the same motions, to take your piece of metal, give it to the beast, take another one and give it to her again, again and again. . . . . If you fail to do so the beast rings and registers your failure. She flunks you out. I tell you, Sir, it is something maddening. I many times wanted to give her a good thrashing with my hammer. Ding dong, ding dong. Please obey, please obey. You want to scratch, you want to blow your nose, to think a bit, to be free, ding dong, ding dong. You have been duly registered and everything will be found out tonight. You are the slave of the machine.

Thus quoted the professor and the reporter said that he understood, that he had been through it himself, and that it had not made him any better or worse a reporter. And, as he was well read, he wanted to know if the professor was a disciple of Bergson with his hatred of machinery and determinism, to which the Frenchman answered that, had he to choose between two evils, he probably would take Bergson. Thereupon the French professor and the American reporter, who had both dipped a little in psychology, began a discussion of the different types of dynamism and mobility, which I will spare my audience.

That the American student, with all his fine intensity, initiative, and aggressiveness, in not a few instances lands nowhere, is probably not his fault. His intensity and velocity are not entirely his, they belong to his time, to the age of speed and perpetual motion in which we live. The motor car, the fast train, the flying machine, the kinema, last but not least the jazz, make the rhythm of our age. Life is motion. The living likes to live, and

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to prove life he revives Achilles' old trick of proving motion by himself moving. Now the educator may like it or not, but to go ahead, to be the first, to catch the first train, to keep on the go, to be in the race, is natural enough to youth. Unfortunately, when we come to knowledge and to university studies, we quickly find that the above standards no longer avail. We leave the field of quantity for that of quality; we come to a sphere where time and space no longer count; where, if we want to get results, we have to reverse the speed. I am not going to solve the problem, simply because the time would fail me and because I am neither a professional psychologist nor an expert in the science of education. But if my readers will be kind enough to put themselves in the place of the reporter of whom I spoke, and will allow me to take the place of the exchange-professor on his way to France, I will sum up in a few words all the criticisms of the American college which I have read or heard in America. Viewed sympathetically at a distance, most of the shortcomings and drawbacks of education in America are caused by a confusion of thought. And from this confusion of thought has arisen the mistake of applying to the mind and its training the purely quantitative standards and measurements of time and space. I cannot, I believe, better express what I mean than by quoting a letter that a graduate student in the Middle West addressed to his professor concerning his M.A. thesis.

Dear Sir:

My family visited me the other day and I had to be with them in town. I feel pretty tired and can hardly stand on my feet but I have faithfully worked on my thesis during the last month. Inclosed find my work. As I have to leave town in two weeks and must receive my degree before I go, please look it over and send it back so it may be typewritten.

Faithfully yours,

——— ———.

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I remembered the way I had tried to prepare for my own M.A. abroad, the long months spent in research, in visits to the libraries, the tedious but indispensable work of securing references and authorities for citation, besides adding new material of my own, the effort to give to bare facts some human countenance and value, to add the interest of style and literary expression, if possible, and, finally, the awe and enthusiasm somehow akin to creation for a piece of work conscientiously done. All this could not have been without putting aside, meanwhile, practical expectations and mere mercenary cares. Here was a lie given to the prejudices of our modernity, certainly not a case of "getting rich quick," but of slow maturation and natural growth, like fostering a seed and allowing it to grow according to its own laws under a careful supervision.

I believe the quantitative element to be a great mischief to real education. Speed is after all much better than routine, and to do quickly what we have to do, provided we do it well, is probably what we mean by efficiency. Now the spirit of scholarship, on which I ask to be allowed to insist, may help us to solve the problem. We want efficiency. If we can have the maximum of results in the minimum of time, let us have it, since time is money. But let us not falsify for it the very notion of scholarship and culture. There is no getting rich quick in scholarship and culture. That pathetic mistake of applying to culture the standards of the business man has been told by a citizen of California, Jack London, in his book "Martin Eden." You remember the story of that ambitious youth who wanted to become a *nouveau riche* in the field of literary achievements. Martin Eden liked books; he wanted to write books, not for the love of art and the joys of artistic creation, but to get rich quick. Martin Eden had no soul, but he had muscles and will power, and he went to literature with the will to conquer of a Nietzschean superman. He set himself

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to write books as one would build a bridge or a railroad; and he had, besides, the genius for publicity. See him in his study—which he calls his sweat shop—somewhere in San Francisco. He slept only five hours, worked, every day, nineteen. Rather than waste a minute he had better lose his soul. He pinned to his mirror the list of words and expressions he wanted to memorize while he shaved. While cooking his meals or washing his dishes, he never forgot his lessons. To get rich quick, up-to-date Martin Eden had recourse to that old trick of the classicists—he took imitation for genius. From books and penny novels he extracted everything he could market as his own. A book for Eden no longer was an object to enjoy, but a quarry, a mine, an oil well. To put it in his own words he thought that "by dissecting beauty he could appropriate it and recreate it himself." This is not culture, it is mock culture and bluff. You know the sad failure of Martin Eden and how at the end of the book, unable to endure it, he commits suicide just when he was on the point of reaching the goal.

To remedy all these defects we need the real spirit of the scholar. The American student is not only the victim of his environment; he is also, to a large extent, the victim of too much system and method. No freer country in the world, no student more jealous of his own initiative. How is it that in so many instances the student is found to be passive in the classroom, so slow to take upon himself his own responsibilities? Is it, as the workman in Brieux' play had it, that the student, also, is the victim of a fine but merciless machinery? Born in the land of the brave, the home of the free, he lives in a world of prescriptions, assignments, requirements, and regulations. While the European student becomes of age and really "comes out" when he enters the university, the American student remains in bondage and a minor in college. His liberty he may take anywhere outside the university. Within the precincts of

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the campus he often is like a prisoner. He must keep in tune with the spirit of the place, live by the traditions and regulations of his class, of his club, of his team, and when he comes to study he finds himself beset on all sides by do and don't. His education is not a free meal *à la carte;* everything is served to him per a laid-down order and the whole etiquette of the *table d'hôte* is prescribed without his choosing. He is told what books he must read, and how many pages of them—a cut and dried program. The lure of the unknown is too often absent from his course of study. Not only is he told the books he must read and how many pages, but also the way he must do it, and sometimes, even, he is told that there is only one way. As he is the slave of quantity, he is in danger of being the slave of system. The number of pages he must read is only equal to the number of systematic experiments to which he must submit. Now there would be, even for the most unsympathetic observer, something beautiful and almost heroic in that discipline so genially accepted, in this fine equanimity and sportsmanship of the student, were it more consciously and deliberately accepted.

To those evils let us oppose the true spirit and the ideal of the scholar. No word calls more for precise definition. It is impossible to define it but by saying that each age has had its different notion and definition of the scholar. Whatever that may be, one thing stands out. If the defects and evils described above are not entirely imaginary, the scholar seems to be the man qualified to remedy them. If motion, velocity, excess of fluidity and speed, restlessness, bowing to the idols of quantity, are signs of the times, none seems to be better qualified than the scholar to change them.

Quality, steadfastness, equanimity, repose, and poise are the standards and ideals of the scholar. Inclined as he may have been in ages bygone to become an omnivorous eclectic like Pico della Mirandola, Rabelais,

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or Erasmus, he very soon became something else, a man of taste, a connoisseur in the field of knowledge, a seeker after the most refined in culture. Quality is the motto of the scholar, not on the faith of publicity but of critical sense indorsed by tradition. The scholar is he who after painstaking comparison and careful selection can appreciate. Intellect not devoid of imagination and constant acquaintance with the best minds of all ages are his method of arriving at truth. Of the scholar as of the gentleman it may be said that he never hurries, not because he is lazy but because he is careful and an amateur of perfection. He takes Emerson's advice that "if you would know what nobody knows, read what everybody reads just one year afterwards and you shall be a fund of new and unheard of speculations."

Ours is the age of the many when, however, a great number of people sigh after the one. To conciliate the one with the many is the art and function of the scholar. He likes things for themselves but by constant attention and comparison he sees things together and reduces them to unity. He is that rare bird of whom Plato spoke: "Show me the man who can combine the One with the many and I will follow in his footsteps even as in those of a god."

Like Plato as defined by Emerson, the scholar may love the illimitable, being himself a lover of limits. Ours is a world of attention focused on only a few points for better efficiency but making also for great danger of shortsightedness. Specialists we want and need, and not *dilettanti,* but we want our specialists broadminded, longsighted, and able to see more than one problem. Out of time and space the scholar lives. His is a far-reaching look through all ages like a searchlight in the night. A conscientious traditionalist and evolutionist is the scholar. While we all live upon the past and draw from its inventors and its discoverers in all directions,

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without confessing it, the scholar is he who acknowledges the debt and pays it in admiration and quotation. Two tendencies are paramount in his mind, an intense appreciation of the present, a deep reverence for the past. However, he is never a slave. Intellect gives him his detachment, his centrality, his freedom. He is methodic, he can be systematic if he chooses, but he remains impartial and tolerant. He can see the many sides of things. Scholarship is one with sociability. The scholar is never alone, his work is team work along with the finest minds of all times. His discoveries are not his, they look to the future and are closely attached to the past. Scholarship is nothing but that conscious and happy sense of relation and indebtedness toward the whole body of knowledge and wisdom, irrespective of time and country. Wherever a fine mind exists in quest of knowledge, he is the scholar's companion. The scholar, too, is a specialist and follows a method of his own, yet he can see beyond his object and courts knowledge for its own sake. Better be a dilettante than a grinder or a narrow-minded expert; but the scholar is no dilettante. Knowledge to him is no mere ornament, no means to spend idle hours in a life of no other sense than that of forms and colors. Scholarship gets at the human element in knowledge. In books the scholar likes men, nature, and the Spirit Universal. The scholar is a lover of books. Books are for him an image of the world, the world an image of his books. The scholar is a born Platonist, an idealist, but he is fond of cherishing ideal and reality in a close comparison. Knowledge to the scholar means culture in the best sense of the word. Culture to him means a constant enrichment of the mind. For the scholar the mind really exists, all the intellectual powers together, memory, imagination, and affection, along with a keen intellect. The artistic element is one in the scholar with the human element. He seeks knowledge as another seeks works of art and decorations for his house. He

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likes his intellectual house in order, he likes it in beauty. He likes to think of many books, of persons congenial for their fine minds and discernment. He is easily drawn by everything characteristic and expressive. The scholar is an optimist. He can say with Montesquieu, interpreted by Emerson, that "There is no hour of vexation which on a little reflexion will not find diversion and relief in the library." The scholar can be modest. He holds that one must study much if he wishes to know a little. The scholar is sociable, he is courteous, a gentleman, and a man of the world. However much he may know, others will never find out. He can put up with other people's knowledge and serve as second to him who can prove himself first. To be gracious, affectionate, noble, humorous, generous, responsive, this is the ideal of the scholar. A responsiveness of sympathy and a fine generosity which evoke an answering enthusiasm, stimulating, exhilarating, open-minded and open-hearted, this was said recently of William James and may be repeated of the true scholar. However natural they may seem, these virtues and qualities are for the scholar less the gift of nature than the product of culture. Nature cultivated, culture made natural, appeal to him. Plato, Cicero, Montaigne, Voltaire, Goethe, Matthew Arnold, Ruskin, Anatole France, these are among his masters and models. His enthusiasm for culture marks the scholar. He is willing to burn of that gemlike flame of which Walter Pater spoke, provided it be lighted at the altar not of dilettantism but of humanism.

This is the ideal of the scholar as offered to our modern world to minister to some of its best needs and make up for some of its deficiencies.

Life and culture are inseparable. Some of the oppositions and contradictions between our modernity and the scholar's ideals I have stated above. Culture and scholarship do not agree well with unleashed publicity. The scholar is a poor advertiser. He shuns the superla-

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tive. "The biggest," "the greatest," "the fastest in the world," have hardly any meaning for him. He is even shy to speak of the "best in the world" because it is not a question of words but of discovery, of appreciation, of close scrutiny and comparison of standards. The scholar hates noise, rush, gregarianism, dogmatism, narrow-mindedness, eccentricity. To add a finishing touch to his portrait, the scholar is disinterested. Eager to do his work and to do it well he is patient for the results. He appropriates for himself Saint Augustine's motto: *Ama et fac quod vis,* "Love what you do and do well what you want." This is for him in the field of study the truest way to efficiency.

I will leave it to my readers to figure how and to what extent the defects of the student can be remedied by the endeavors of the scholar. Scholarship is nothing after all but a fine sensibility, responsiveness, nimbleness and mobility of mind, a life within the life for a happy and harmonious intellect. All the speed, the velocity and quickness, the monopoly of which the scholar denies the outside world, the scholar welcomes and enjoys within himself. Life, action, initiative, aggressiveness, ardor for work, enthusiasm, these the student can take from the scholar if he need them. Imbued with this spirit the student will go of himself to certain epochs and countries where poise, steadfastness, fixity, spirituality, wisdom, and beauty abide. We know the world of the many; the student helped by the scholar will find the land of the one. Were I asked to offer a definition of true education I would say that it consists of what I have just suggested. To my mind it is nothing but the passage from the many to the one, from object to subject, from that which is without to that which is within, from nature and things to man. How the university can help this, how it can adapt itself, its curriculum, its regulations, to this I have no authority to decide. But I am not, I think, mistaken in advancing that in as far as the spirit

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of scholarship and culture penetrates science and specialization, in as far as scholarship and specialization combine, in so far our higher education will come to its true ends. *Science sans conscience n'est que mal à l'âme,* "Science without conscience only harms the soul," said François Rabelais more than three hundred years ago, and Montaigne added that *les plus belles âmes sont les plus universelles,* "the finest souls are the most universal." Systematization, specialization, quantity, speed, idiosyncrasies, practicality, we have. But the spirit blows whither it will and is after all the only master of its destiny.

The scholar, as I have said, is an optimist; he has full confidence in the future of education, of scholarship and culture in this great country, the land of Channing, Emerson, Theodore Parker, Lowell, William James, Horace Mann, Henry Adams, Royce, and many others, all fine types and specimens of humanity, vigorous characters, clean-cut personalities, citizens of the United States and of the world, models of broad culture, of keen intelligence, of liberal moral sense, realists and idealists, pluralists and monists, contemplators and actors, all efficient to contribute to the welfare of mankind.*

* Annual Phi Beta Kappa address, delivered at the University of California, May 10, 1921.

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FRESHMAN ENGLISH AND A CAREER OPEN TO THE TALENTS

HAROLD BRUCE

The University of California's share of the post-war flood which has descended upon the state universities is reported by the Recorder to be some nine thousand five hundred students. With this inundation the problem of the large lower division courses has become acute. At the moment when a new administration demands scholarship, research, and a fresh emphasis on advanced and graduate discipline, an entering class of twenty-two hundred cries aloud for teaching. To drown its cry there is talk of a limitation of enrollment, of the elimination of the unfit, of shifting the burden to the high schools, of establishing separate junior colleges. But it is a safe wager that a generous, expansive, democratic spirit will prevail, and that the cry will not be choked at its source.

To answer this cry the University has hitherto organized two types of course, the lecture course of unlimited enrollment, which got its impetus and its breath of life from the work of men like Gayley, Stephens, and Setchell, and the standardized course in small sections indefinitely multiplied, which derived its ideal from the personal teaching of the liberal college. Freshman English has always belonged to the second type. But it is now a question whether in this particular subject the point of diminishing returns in the process of multiplication has not been reached. Fifteen years ago a New England college like

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Williams with an average freshman class of one hundred supported an English department of four men. Five years ago an eastern university like Yale with an average entering class of seven hundred and fifty supported an English department of thirty men. By that ratio the University of California this year should maintain an English department of ninety men.

To increase the crew thus in mathematical ratio as the flood rises has been the course chosen by some universities. The rolls of members of the English departments at Wisconsin and Illinois look, in length at least, like the roll of our College of Agriculture. (But there aren't so many professors!) The University of Minnesota is reported to have sent last spring to a single eastern graduate school a demand for fifteen doctors of philosophy to teach freshman English.

The plan followed by these universities is beset with difficulties. It swells the budget of the department of English to great dimensions. At an average salary of $3000 the University of California's needed ninety men would cost $270,000. Moreover, even if the money were at hand, doctors of philosophy do not grow like the flowers that bloom in the spring. The graduate schools are not crowded with candidates for that career which has been said to demand the elegance of a diplomat on the salary of a postman. Finally, it is not conceivable that a single department could offer a real future to ninety men or to half that number. To the neophytes a professorship would be as attainable as a glimpse of the Holy Grail. In a ponderous mill of wholesale teaching they would grind laboriously for two or three years, a floating population, advancement cut off, looking for escape to small colleges or to business.

If some universities have believed that with numbers they can breast the stream, others have dropped the oars and floated with the current, which, in a flood, as at other times, has a way of running downhill. They have turned over the instruction in the fundamental

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freshman course to untrained tutors. Any graduate student with a bachelor's degree and a scanty purse has been welcomed, snared with a wage probably below the California state minimum for women, and placed in charge of freshman sections. At this University, in the spring term of 1920, the exigencies of the situation brought the English department dangerously near this expedient—or shall we say surrender? At a large middle-western university, which had better be nameless, the freshman work in English is now substantially in the hands of graduate students. That the current, under such circumstances, will set faster and faster downstream, is as sure as the law of gravity. The freshmen will fall under raw recruits, missing in their instruction the breadth, soundness, and stimulus they have a right to expect. The graduate students will incur a tedious delay, an increase of the already intolerably numerous years of poverty that separate them from a decent self-supporting life. Instead of standing at the opening of a career for their talents, they will find their morning exercise humiliatingly prolonged toward noon.

Of course one may climb Ararat, fold his arms, and await his destiny. There are colleges, mostly in the far East, whose heads, and feet too, I suspect, are in the clouds. They teach their freshmen Shakespeare, Tennyson, and Carlyle, and believe that God will take care of their grammar. I envy these mountain dwellers. They have a right to their heights, and it may be that they will not be floated off. In their population birth and the private school have instilled some respect for everyday correctness. Their students are few; the tides of democracy do not yet rise cubit by cubit up the flanks of their Ararat.

But here at California no such respite is allowed. If we cannot conscientiously struggle for our ninety men or form our battalions of graduate students, we must find another plan. Perhaps in the nature of the work done in freshman English lies the hint of another, and

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a middle way. That work, it seems clear, puts the course between the lecture courses of unlimited enrollment and the standardized courses of unlimited multiplication. As it deals with the principles of effective expression, as it finds room for reading and for the discussion of ideas as the basis of composition, it is properly a lecture subject (witness Barrett Wendell!). As it seeks to diagnose and correct the weaknesses in the writing of the individual student, and to enforce in him habits of logical thought, it is properly a personal and disciplinary subject. If it is no more than the former, it had better be an upper division lecture course; if it is no more than the latter, it had better be transferred to the high school or to the Extension Division. In the synthesis of the two it has its reason for existence.

Cannot this synthesis be attained by a division of the work into lecture and discussion in groups of one or two hundred students and into individual practice and criticism in small recitation groups or in private conferences? The lecture work will naturally be primarily in the hands of professors, the recitation and conference work primarily in the hands of teaching fellows and readers. Such a plan, as contrasted with the small section method, will, while allowing an increase of fifty per cent in the salary of the professor, reduce the cost of instructing each student by the same percentage.

For the professor this division of the course opens a career of work more amply paid, of work done under the stimulus of a considerable audience, of work no longer darkened by the deep shadow of excessive theme reading. With the decrease in the number of lower division sections, he has some prospect of refreshing himself by teaching in upper division and graduate courses. He may even be able to call his soul his own enough to study for himself in the hours that formerly, because of his duty to the university, he gave to themes, and, because of his duty to his family, to summer session and extension teaching. He holds a professorial rather

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than a tutorial position; he is one of a department corps that may become permanent and highly organized; he has a place in the academic sun.

This place must not be held at the expense of the graduate students who act as teaching fellows. They must not be allowed to undertake too much teaching nor to remain too long in the same position; their own study must always be going forward; they must look for their reward not to the meager pay which they receive, but to the chance for close association with older men and for practical training in teaching in their chosen field. They must be in the mood of the apprentice. Anyone who knows the leap into the abyss taken by the doctor of philosophy as he turns from his final examinations in June to the teaching of freshman composition in October will have a healthy appreciation of the worth of this apprenticeship.

At the bottom of the ladder come the readers. With them comes youth. Though they are the helots, the bearers of burdens, their backs are young and strong, their spirits unbroken, their hours of duty few. They, too, are apprentices preparing for newspaper work, for high school teaching, even for authorship, and gaining here in the workshop an insight into the demands and the standards of their trade. Like the teaching fellows, they are in direct and daily association with the professor. They visit his classes, they are occasionally relieved at their posts by him; they hold frequent conferences with him at which themes are read, the purposes and methods of the course discussed, the grades and comments checked. They are, in this University, a numerous, young, and eager lot; pathetically eager, it seems to the old-timers.

Like the feudal system, this scheme for the organization of freshman English begins at the top. In it the professor asks, "What shall I do to be saved?" when he should ask, "What shall I do to save the students?" But salvation, like other well considered virtues, begins

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at home, and if the shepherd be saved, perhaps not all the flock will go astray. If I came to college a freshman, I would rather be taught by a four-thousand-dollar than by a six-hundred-dollar man. This touching faith in the relation between a man's salary and his ability is no doubt an illusion, but I cling to it. I have noticed that the western freshman comes to college, sometimes, of course, with a Stutz, but more often with an auroral keenness for a new wide world. Before him, as before Burns on his hillside, the curtain of existence is going up in many-colored splendor. I want the edges of that curtain to be lifted for him in his classes as well as in his fraternities, and I hold that there is a better chance for that illumination from a man who has lived and travelled a space in the world of thought than from one who is in pilgrimage just four years ahead of the newcomer.

Of course this auroral newcomer should understand that for him the spoon-fed days are over. If a career is open to his talents, he must run the race. A paternal university, through Subject A, may start him in a group with his kind and guide him down the path of needed rhetoric and grammar. But it will not post a doctor at every turn and a nurse at the end of the path. If he does not know a dangling participle when he meets one, he will be introduced, but he will not be given exercises and review exercises until he would know one in the dark. If he spells business b-u-i-s-n-e-s-s and tragedy t-r-a-d-e-g-y, as he does, he will not have to stay after school and write each word a hundred times on the board. He will find the crowded ways which he must walk charted rather than heavily guarded. He will find his professor, speaking millenially of course, no longer in the rôle of policeman, but rather of guide, philosopher, and friend.

Thus, in one of its channels at least, the democratic flood may bring on its strong current an ideal of aristo-democracy, the best serving the most.

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AN ADVENTURER IN THE LITERATURE OF SUCCESS

H. C. Brown

Here is the story of a not uncommon type of college student, as I have seen him, in his quest for success. As a young American, he is susceptible to the popular ideal of wealth and fame. The man whose work may count for future generations but who has not yet entered the limelight is a kind of "dark horse" that has not yet arrived and does not concern him. He is not interested in "futures" of this sort and ranks such success with "high-brow" notions. He admires the leader who can "show the goods," and believes, as a citizen of a democratic community, that anyone can win the prize—or almost anyone. To meet this attitude, there has grown up a vast literature of Success Books, which from time to time creep into our university libraries. That they do not there remain idle, the loan cards will show.

This John Doe comes from a ranch or small town. He has no great cultivation, as a man of the world sees him, but his mind is active and he has had some practical experience of the vicissitudes of money-making labor. He may have had a good job and may even have hesitated about coming to college. There were plenty of men in his home town making good without a college education. Why should not he? However, he felt vaguely a certain limitation about the atmosphere of Milpitas, or wherever it was. His school histories have

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emphasized the struggle for education of Lincoln and other popular heroes. Perhaps he learned to write by the copy-book "Knowledge is power." Some luminary has gone from his high school to the university and to fame. A friendly teacher has added his urge. But, above all, his democratic spirit rebels at the thought of possible college-bred competitors who may have some advantage he does not have.

He has not been untouched by magazine advertisements where fingers have pointed at him and headings have screamed: "You can double your income, improve your memory, learn to impress others," become a lawyer, accountant, engineer, administrator, doctor, or anything else, by the use of a few spare minutes a day and somebody's exceptional correspondence course. And there followed indorsements from successful men. But these were, after all, mere names. John has learned to suspect advertisements. The university can surely do a better job. It is hard to enter, it costs more, yet its ranks are always full—and without advertising. There must be something better there.

So we find John installed at the university, in the full glory of freshman experience. In his secret soul he is a little perturbed. To the man of some experience in life, there is something a little childish about the pranks of freshman hazing. But it is all in the game. He has heard about the benefits of college life and he might as well get into it with the others, for he wants all that is coming to him. Yet his first encounters with the curriculum have been unhappy. He has not been able to assimilate his courses to his background of knowledge. They are over his head. He cannot "stop" them. His fellow-students admire the good mixer, the college political boss, the athletes, the managers of student organizations. These are the real successes of college life. Who cares if they are not dear to their professors? Indeed, the faculty tend to be natural

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enemies, who sometimes interrupt perfectly good careers with probations or even dismissals. Who ever hears of the real student, anyway, except to point him out as a poor grind?

While thus puzzled over the university scale of values, John meets a friend who has dipped into the success literature. So success can be taught! The lower division has taken him in hand to make a good citizen out of him. But, like every other American, he knows he can be a good citizen if he can only be a success. Why is there not a fourth section of the course, so that he may get his success learning with his culture? There may be something in the charge that university knowledge is fossilized knowledge. His friend tells him that the success books say nothing about the value of a college education. Most of them consider it a waste of time. He will look into the matter for himself.

For the first time the library becomes an interesting place. He begins "extra-curriculum" reading. One of the college periodicals has cited some statistics concerning the percentage of successful men with only a common-school education, as compared with those who have graduated from high school and from college. He remembers that they showed an increasing percentage in favor of the high school and the college, and that there was a favorable correlation between grades and later achievement. It won't do, then, to abandon class work; it may hurt, but it is somehow for his good. On the side, however, he will read up on accounts of what successful men are like.

There may be a little bombast about the popular hero-worshipers, but here is a study of successful administrators by a professor in a well-known school of commerce. Since the author is "professor," his work must bear the stamp of scientific approval. With growing surprise John finds the data wholly concerned with weight, height, number of children, and age of marriage. Reformers

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are among the tallest of men, closely seconded by Superintendents of Street Cleaning. University Presidents are slightly shorter and are equalled in height by Economists and Sociologists. Psychologists and Philosophers are decidedly shorter, and Musicians can hardly be told from ordinary men. Street Cleaning Superintendents take precedence as to weight, but University Presidents are heavy, a little below Reformers and about equal to Anti-Saloon League officials. Philosophers weigh more than Psychologists, but are twenty pounds below College Presidents. Economists and Sociologists are halfway between. Philosophers marry late, about with Merchants and Presidents of Bar Associations, and have small numbers of children. Some Philosophers even don't marry at all, but successful College Presidents, Economists, and Sociologists have a hundred per cent record in marriage and an average of twice as many children as the last class. They are, in these respects, about in the class with Bank Presidents, Corporation Directors, County Attorneys, and Superintendents of Street Cleaning. In the case of College Presidents, there are special tables to show that those below the average in height, weight, and number of children are, at best, Presidents of small colleges only and not of the great universities. Presumably in other cases, defect puts one at a disadvantage.

John is a little puzzled by these figures. He is not married and has no children. His height and weight offer him a good many undetermined possibilities. He is not quite sure what it is all about. Like his courses, it is over his head. He picks up a popular magazine. On the first page there is a most alluring offer to impart "the subtle principle of success that requires no will power, no exercise, no strength, no energy, no study, no writing, no dieting, no concentration, and no conscious deep breathing." It "does not require that you practice economy, or keep records, or memorize, or read, or learn

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anything, or force yourself into any action or invest in any stocks, bonds, books or merchandise." Being human and a little inclined to laziness, John is fired with enthusiasm and rushes to the card catalogue. Unfortunately no department has purchased the book for the shelves, and, a little disgruntled at academic inefficiency, he returns to his magazine.

The advertisement again, and a long list of those who have succeeded by this method: Moses, Cleopatra, Phil Armour, Confucius, Ethelbert Hubbard, Columbus, Darwin, Mahomet, Galli-Curci, Hiram Johnson, and some fifty others. But why haven't any of these guys written testimonials? Do you get your choice as to which of them you turn out to be? It might be interesting to turn out a Moses or a Cleopatra—weren't they in the movies? Or a Darwin or a Columbus—they come in "Hist 1A." But suppose he came out a Hiram Johnson, and he a good Democrat! The method scatters enough to be dangerous. If a fellow is going to invest two dollars he wants to know where he is going to end up. Besides, John reflects, he still has to economize, so it may be just as well to keep his two dollars and utilize the materials at hand.

He finds a voluminous and much-read writer, the author of a dozen or two books on "Forging to the Front" and kindred topics. Opening one casually, he reads, "The man who succeeds must always, in mind and imagination, live, move, think, and act as if he had gained success, or he will never gain it." John's sense of humor suggests that this is exactly the attitude of certain successful fishermen he knows; also, where fish-markets abound, or where there is kindly coöperation on the part of the natives—he has coöperated himself; the living, moving, thinking, and acting success need not confine itself to mind and imagination. The author seems not averse to such supplementations. John has tried something like them himself in other fields. But

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somehow his efforts to impress the co-eds by dressing like a millionaire in Style-plus clothes were not quite so successful as he had hoped. Perhaps there will be some more useful suggestions farther on.

The list of character-traits the successful man must cultivate, according to this and other writers, is a little confusing. They can be boiled down to will, memory, foresight, and ambition. Self-consciousness and introspection are everywhere listed as archenemies of success, but if experience forces upon you consciousness of defect along any of the lines suggested, there is a considerable list of works by reading which you can overcome the defect. Best of all, there is no charge for lessons. A university library may have some advantages, after all.

Take will. Will, like any muscle, grows by exercise, and, as is true of all muscular development, it is well not to overstrain it by attempting too difficult tasks at the beginning. Determination can be applied to lesser matters as well as greater. John becomes an apostle of will-development. When he enters a room he no longer slides inconspicuously into a seat. No, he picks up his selected chair, puts it down firmly and noisily in a conspicuous position, and begins conversation in a loud penetrating voice that certainly commands attention. He has got so that he can leap from bed on a cold morning with never a shiver, pull on his socks with all the energy the toes will bear, and command his breakfast in tones that make the hasher scuttle. It is all as the books said. But somehow things don't feel quite right. His' friends are unaccountably busy these days. A sophomore called him fresh and threatened . . . . It *is* hard to combine college life and the pursuit of success.

John finds memory a little harder to train than will. His first efforts are not brilliant. Three methods are in vogue. The first requires a memorized key. He is told that he must learn to associate each letter of the

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alphabet with a certain number, then, when introduced to Mr. Smith, he is to reflect casually that the letters of Smith are numbered 19, 13, 9, 20, and 8, while murmuring a conventional "This is a great pleasure, Mr. Smith." The sum of these numbers is 69, which is 3 times 23, a proverbial number for bad luck. If he can then recall some fact concerning which Mr. Smith has been unlucky three times, the eternal remembrance is fixed. Meanwhile he may have been conversing casually about the weather, or politics.

John is not a very good lightning calculator and all this is, as it sounds, a little difficult. Perhaps the method would be better applied to recalling dates. He tries 1492. The digits represent a, d, i, b, which, of course, stand for "Anna dances indescribably badly." On looking the matter up he finds that Columbus did not have a ship called the Santa Ana, but he might have had, and the Santa María ends in a. Also she undoubtedly danced very badly in crossing the Atlantic, if that ocean is anything like the ocean outside the Golden Gate. The key, then, will work.

His friend, a "Math." shark, tells him that the other methods are pretty hard on the imagination, and one is in far greater danger of going wrong. When you meet Mr. Jones you observe that, like a giraffe, he has a very long neck. Then think of a zoological garden and how Jones would look reaching that long neck up into a tree of which the branches spell the word Jones! The danger is that next time you may recall a tree whose branches spell Smith. His friend says such accidents really do happen and the key method is best. He does not like either one very well and finds something more congenial, because more familiar, about the third method, that of rhyming verses.

Of course such verses have their faults. When Kipling's Painted Jaguar tries to recall his mother's rhyme,

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Can't curl, but can swim,
Slow—Solid, that's him!
Curls up, but can't swim,
Stickly—Prickly, that's him!

and gets

Can't curl, but can swim,
Stickly—Prickly, that's him!
Curls up, but can't swim,
Slow—Solid, that's him!

he is much discomfited by the practical results. So much John has learned from an English course. Must he take a course in poetry-writing to equip himself? Perhaps not. His book gives the example:

In 1861, the American Civil War begun,

and after a little head-scratching he succeeds in achieving:

December twenty-first, my worst exam. am,

and feels himself launched on a literary career. Kipling isn't so much after all, when a fellow gets down to business.

The problem of developing foresight and ambition calls forth far more brilliant oratory from the success authors, but the method is less precise. John learns that most people are confused by the complexities of situations, but the world is fundamentally order, and order is essentially simple. This is demonstrated by the discoveries of science. Given one or two simple principles, and any problem, moral, physical, or mixed, is solved. He notes the order of furniture in his room. He learns that a reception involves nothing but entering, making an impression, and leaving. Never hesitate. Act. He practices on the restaurant bill of fare until his pocket book gets lamentably low. Yet he is told in this way lies business triumph. Success and foresight will thus demonstrate themselves in him. But why don't they begin?

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Ambition is the final Midas touch. Work always with enthusiasm! He reads that, if you are only a shiner of shoes, add the force of ambition to your task and you will some day be president of the United States, or of the Standard Oil Company. But how? "If the idea that is to become the guiding star of your ambition has not yet shown above the horizon, nevertheless believe in it, strive for it, and, like the wise virgin of the Scripture, your cruse of oil will sweep away all barriers and bring destiny prostrate to your feet!" Gee, that sounds fine, he reflects, just like an English "prof.'s" lecture, but it's hard to stop. Perhaps Destiny slipped in the oil. Mopping might have been more effective than sweeping, at least from Destiny's point of view. But it's not very practical; let's get back to earth.

Here is a book, "Choosing a Vocation," that may help: "The selection of a suitable vocation may be made by the aid of astrology, clairvoyance, cleidomancy, pedomancy, spasmotomancy, chirigonomy, chirography, metapostoby, phrenology, physiognomy, character-analysis, intuition, physical tests, and mental tests. The first six of these have not proved of great value but . . . ." The remainder of the list is a little formidable. It would take half an afternoon to look it all up in the dictionary. But here comes Dick Roe, an "education-major." Perhaps he can help out.

Dick says mental testing is the thing. All you have to do is to draw a few lines as directed, define a few words, figure a few simple sums, and see how many words you can rattle off in three minutes; then the tester will hand over your "Intelligence Quotient" and there you are, all fixed. Dick has a date for some testing now. Will John come? John hesitates. He is a little afraid of that phrase, "all fixed." What if he turned out to be hopelessly incompetent, as his "Math. prof." thinks—just a general good for nothing? It would be a hard blow to pride. No, not now. His eye has been caught by a new magazine and he is going to read a little.

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This magazine is a respectable psychological periodical. But it doesn't look very heavy, and the title page announces an article on "The Relation of Interest and Ability." Perhaps this will solve the problem, for he rather likes Law, and, it may be, he may turn out to be good at it when he gets on far enough to have a chance. He reads with increasing astonishment. The author has inquired of a lot of college students as to what they like and has then looked up their grades, and declares, with due reservations, that his evidence, though not final, indicates no correlation whatsoever between a man's interests and his successes. What if his success should be as a plumber or a pawnbroker, when he thought he might be interested in the Law!

After all, John reflects, there may be some things that it is pleasanter not to know. The "philosophy professor" said the other day that "happiness to be got must be forgot." Perhaps it is the same way with success. College life isn't such poor fun after all, or at least it wasn't before he began to queer himself by practicing will-training. It might be a good thing to take a vacation from that. Besides, he found some American history the other day that was interesting, and the professor of politics was beginning to talk about things that he could understand and wanted to know more about. The sun is shining, and some fellows are playing ball in the field just outside the window. It would be good fun to join the game for an hour before dinner, and get his head cleared up.

Exit John Doe. Fortunately, the American college student's healthy-mindedness usually overcomes American credulity and American haste for success. John will settle down to becoming at least an ordinary student, and go the way of all flesh, leaving a record not widely different from the rest of his kind. But what of those less favorably situated, for whom this success literature furnishes the sole mental pabulum to replace a sound education?

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THE BOY'S LIFE OF SHAKESPEARE

[This life is a cento of gleanings from college entrance examination books. The books are fortunately kept on file where parents of "flunked" students may consult them. Verification is therefore possible. Were it not, no editor would dare venture to publish such facts.]

William Shakespeare was born in 1776. The place of his birth is uncertain: some say Strassburg, some Strafford, some stratford von a von. Most probably he was born in the first or the last, since he was the greatest German poet. There are other authorities on file, however, who believe he was not the greatest German poet, but that he was first discovered by the Germans to be the greatest poet.

However this may be, it is certain he was the son of the village blacksmith, the ninth son of honest parents. He spent most of his younger years trampling in the beauties of Mother Nature, which he afterward depicted in his favorite play *As You Like It*. We know this was his favorite play because it is the only one in which he acted. He played the part of the Old Adam. His favorite pastime was poaching deer, but he was also chased for stealing deer. He must also have seen disease at home for such phrases as "cleanse the stuffed bosom" in Macbeth suggest cancer. And he must have read the Bible for his works are full of allusions to it, as Niobe, for example.

Altogether too young, Shakespeare married a woman much older than himself. So he ran away to the city where he found the Renaissance was in full swing. He added greatly to its success. From the lowest bottom he worked his way to the

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foremost dramatist of his age. At first he did hack work holding horses outside of the theatres. Then he became a screen-shifter.

Among his best known plays are *The Taming of the Shrewd, Juliet Caesar, The Hurricane,* and plays about English kings and Roman kings. He created some wonderful characters like the wired sisters in *Macbeth* and the Aërial by which her master spoke over long distances in another play.

He made a good deal of money with his plays and by various usurer's tricks such as he showed he understood in the *Merchant of Venice.* But nevertheless he died so poor that all he was able to leave his beloved wife was a second-hand bedstead. This is often the fate of great poets.

Long after Shakespeare died someone started the idea that he hadn't written his plays, but that Bacon had. This is impossible, because Bacon was much too busy a man to have had time for writing these plays which must have been a greal deal of work.

B. H. L.

* * * *

CALLIOPE PANDEMOS

[Mr. H. G. Wells, in *The Outline of History,* finds in ancient Greece "very much the atmosphere of the lower sort of contemporary music hall."]

When dear old Homer drained his cup
  And grabbed the tuneful lyre,
The heathen heroes all sat up,
Pricked up their ears and ceased to sup,
  His ditties to admire.

He hymned the blameless Ethiop
  And Poseidonian sprees,
And how th' Olympians loved to tope
And guzzle Senegambian dope
  'Neath equatorial trees.

He had some spicy scandals, too,
  Quite neatly put in verse,
Of gay old boys celestial, who
To ox-eyed goddesses were untrue;
  Or did things even worse.

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When Zeus, gay old Lothario,
  Had sipped a drop too much,
He'd make a break for the world below
And in his ramblings to and fro
  Was sure to get in dutch;

For lurking under every tree
  Was a pulchritud'nous dryad,
Her charms unveiled, as one might see,
Her manners from conventions free—
  By every brook a naiad.

Small chance there was for poor old Zeus
  To lead a decent life;
He saw it wasn't any use,
And when his consort tried abuse
  He beat his white-armed wife.

Sweet Cytherea, Zeus's pet,
  Was also rather frisky;
She shocked Olympus' younger set,
Her escapades are talked of yet—
  Details are far too risqué!

Now when the censor butted in
  And stopped a naughty story,
The bard sang of war and its horrid din,
As he twanged his lyre with skilful fin,
  And chirped of battle gory;

Of the blood-stained flood of the sacred river,
  Where the Danaäns smote their foes,
Of the thrust through diaphragm and liver,
Of wounds that gape and forms that quiver,
  With the dead in ghastly rows.

Or he sings of the sea and its thundering surge
  And the fearful leven flash;
Of the coursing bark and the Wanderer's urge,
The Siren's song and the sailor's dirge,
  And the North Wind's stinging lash.

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But when his audience has enough
Of the Simon-pure heroic,
They cry aloud for the slapstick stuff
And he lets 'em have it good and rough,
This humor protozoic.

Odysseus tans Thersites' hide
And cracks his woolly pate—
Each hero has to hold his side
And the shekels pour in a golden tide
For the poet up-to-date.

COLIE AMBICUS.

* * * *

DE GREGE SCRIPTORUM

The familiar distinction between the form of expression and the ideas expressed, although justified by convenience, is not logically accurate. Language is the instrument of thought as well as a medium of expression. Obscurity, affectation, or vulgarity of style are faithful reflections of the writer's own mind, nor can he long sustain a tone dissonant with his inward qualities. The consciousness of possessing an idea without finding words to express it is merely a flattering illusion; until the words are found we must believe that our conception was not clear. There are, it is true, many feelings, visions, intimations, which defy our vocabulary, but they defy intellect, too, and to be known they must be actually experienced. The artist or the philosopher can give us only shadows of them in metaphor, because when he reflects about them he sees only their shadows himself. Expression is the criterion of thought: form and concept are but different phases of one and the same thing.

It is equally hard to define the difference between clarity and beauty; first, because clarity of diction is in itself a kind of beauty; and secondly, because it is so difficult to appreciate ideas conveyed in crabbéd style. Even when the words themselves are perfectly comprehensible our minds will not assimilate their meaning if the composition is lifeless. The writer who is eager to move, to convince, to persuade, must give his ideas legs to walk on—or rather wings to fly. He must cultivate every form of beauty of which language is susceptible: the sensuous

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qualities of sonority and rhythm, the imaginative or poetic qualities achieved by the artistic use of metaphor, and the spiritual qualities such as sublimity and sincerity, which are the marks that distinguish the highest forms of art from mere virtuosity. So while one may write very beautifully indeed and none the less be thoroughly mistaken, no one may properly be called truthful who cannot find adequate expression for his thought. To be truthful we must be effectual.

In the little world as it was before the French Revolution, these principles were tacitly accepted; partly because they are implicit in the models of classical antiquity. Nowadays they are almost forgotten. Our modern world is too big to think in: there are too many people in it, too many objects and too much to do—a colossal antheap, all scurry and bewilderment. So we have no time to read anything carefully and intelligently, as Dante read the *Aeneid*, or to write anything as clear and perfect as the *Divina Commedia*. Our time is so completely taken up with trivialities that we regretfully forego essentials. It is a vicious circle, a disease, whose effects continually reappear as causes. Neglect of form encourages the rank and jungly growth of facile compositions which are not worth careful study and are therefore merely scanned. This habit once taken, the reader loses his ability to distinguish and appreciate perfection. So at length works of the greatest excellence are rendered fruitless, not through any fault of their own but because the weeds give them no inch of ground to grow in.

Now, since the literary ideals of most people, unless they happen to be geniuses, are wholly drawn from their reading, and since they read very hastily and indiscriminately, there has appeared a legion of industrious writers who are sincerely ignorant of the difference between good and bad writing. Their works are invariably far too long; what might have been a good footnote is puffed up into an article; if they stumble upon a reasonably substantial idea they cannot analyze it and conclude—they must dilute it with historical introductions and polemics until a modest chapter has been turned into a book, planless, diffuse, and intolerably dull. The usage is so universal and so stereotyped that it rarely occurs to us to complain. Often, too, the fixed literary forms employed are oddly inappropriate to the subject treated. It is fitting that a novelist should arrange

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his narrative in a symmetrical pattern, since he is supposed to be thoroughly familiar with the events; but it is absurd for a philosopher to impose such formal regularity upon his fragmentary visions. The attempt leads to desperately contrived transitions between disparate ideas, tottering word-bridges across lacunae, specious developments of a tenuous thought. Confucius, Plato, and Pascal are better models for philosophic prose than Saint Augustine or John Locke. But the most radical defect of modern writings is vulgarity. They are not merely lustreless, they are positively and aggressively commonplace. Sometimes this effect is achieved by means of false beauties and leaden platitudes, sometimes by the excessive use of Latin words and learned periphrasis, sometimes, by way of avoiding these notorious faults, the author tries to write exactly as he talks, with unaffected tediousness.

But we live in a virulently democratic country whose ideals are perpetually in contact with economic production and salesmanship. Our authors live by pleasing the public; our professors are advanced *pro pondere scripti.* Vulgarity and prolixity are quite inevitable!

That explains a great deal, but it justifies nothing. The general trend of a civilization is perhaps inevitable, but the necessity is not specific: The individual is not foredoomed in the cradle to write silly novels or stupid articles. He may understand the forces that bear upon him and by understanding annul them, or accept the laudable alternative of silence. Above all, he may learn to be honest, and not lay upon the altar of the Muses the gifts intended for Mammon.

There is therefore no excuse for these drab imitations that pass for books. If we were a truly practical people we should neither write them nor countenance them. If we do so it is not because we are enslaved by the civilization in which we live—to what end do we gather and interpret the records of past thought if not to protect ourselves against the tyranny of the present?—it is because we lack patience and ardor and boldness of mind.

F. A.

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